

Service Manual



Service Manual

KG300



Model : KG300



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1. INTRODUCTION

1.1 Unit SPECIFICATION

| | | 7312 MRS |
|------------|--|------------------------|
| | RTP | Sep/M , 2006 |
| | Solution | 6226M |
| General | Type | Bar type |
| | Antenna Type | Internal(tri-Band) |
| | Main Display | 2.0" QVGA |
| | GPRS | Yes, Class 10 |
| | MMS | Yes, 1.1 |
| | Camera | 2M(MT9D011) |
| | Battery | 800 mAh (LG) |
| Multimedia | Audio player | Yes |
| | Video recoding with playback (QCIF) and preview(QVGA) | Yes |
| | FM Receiver | Yes |
| | MPEG4/H.263 | Yes |
| | H.264 | No(no support) |
| | AAC+ | No |
| | FM as alarm | Yes |
| | Scheduled FM recording | Yes |
| | MP4 for incoming call/ power on off animation and screen saver | Yes |
| | Speaker (HandFree) | Yes |
| | Audio player--real resuming | Yes, for MP3 only |
| | Embedded Game | 3 Default |
| | Video recording | Yes |
| Storage | Memory Size | 128Mb flash + 64Mb Ram |
| | Internal NAND | 64MB |
| | Memory Card | MicroSD |

1. INTRODUCTION

| | | |
|------------|---------------------------|--|
| | Bluetooth | Yes, CSR BC3 ROM (6 basic profile: HS, HF, Dail up, SPP(OPP), FTP) |
| Connection | USB | Yes, slave 1.1 |
| | IrDA | No |
| | WAP | Yes, 2.0 |
| Others | Java | No |
| | PoC | No |
| | EMAIL | No |
| | Status LED with one color | Yes |
| | DRM | No, OMA 1.0 |
| | Dictionary | No |
| | MPEG4 caller ID | Yes |
| | Finger handwriting | No |
| | Touch Panel | No |
| | OTA | Yes |
| | AB repeat | Yes |
| | Music Equalizer | Yes |
| | Image Editing | No |
| | In flight mode | Yes |

1.2 PERFORMANCE

PRODUCT SPECIFICATION

| NO | NAME | SPECIFICATION |
|----|-----------------|--|
| 1 | Frequency Band | EGSM900 Band <ul style="list-style-type: none">• TX: $890+n*0.2$ MHz• RX: $935+n*0.2$ MHz (n= 0~124)• TX: $890+(n-1024)*0.2$ MHz• RX: $935+(n-1024)*0.2$ MHz (n= 975~1023) DCS1800 Band <ul style="list-style-type: none">• TX: $1710+(n-512)*0.2$ MHz• RX: $1805+(n-512)*0.2$ MHz (n= 512~885) PCS1900 Band <ul style="list-style-type: none">• TX: $1850.2+(n-512)*0.2$ MHz• RX: $1930.2+(n-512)*0.2$ MHz (n= 512~810) |
| 2 | Phase Error | RMS < 5 degrees Peak < 20 degrees |
| 3 | Frequency Error | EGSM900: < 0.1ppm (90 Hz) DCS: < 0.1ppm (180 Hz) PCS: < 0.1ppm (190 Hz) |

1. INTRODUCTION

| | | | | |
|---|----------------|------------------------|-------------|-----------|
| 4 | Transmit Power | EGSM900 | | |
| | | Control Level | Power Level | Tolerance |
| | | 5(high) | 33 dBm | ±2dB |
| | | 6 | 31 dBm | ±3dB |
| | | 7 | 29 dBm | ±3dB |
| | | 8 | 27 dBm | ±3dB |
| | | 9 | 25 dBm | ±3dB |
| | | 10 | 23 dBm | ±3dB |
| | | 11 | 21 dBm | ±3dB |
| | | 12 | 19 dBm | ±3dB |
| | | 13 | 17 dBm | ±3dB |
| | | 14 | 15 dBm | ±3dB |
| | | 15 | 13 dBm | ±3dB |
| | | 16 | 11 dBm | ±5dB |
| | | 17 | 9 dBm | ±5dB |
| | | 18 | 7 dBm | ±5dB |
| | | 19(low) | 5 dBm | ±5dB |
| | | DCS1800/PCS1900 | | |
| | | Control Level | Power Level | Tolerance |
| | | 0(high) | 30 dBm | ±2dB |
| | | 1 | 28 dBm | ±3dB |
| | | 2 | 26 dBm | ±3dB |
| | | 3 | 24 dBm | ±3dB |
| | | 4 | 22 dBm | ±3dB |
| | | 5 | 20 dBm | ±3dB |
| | | 6 | 18 dBm | ±3dB |
| | | 7 | 16 dBm | ±3dB |
| | | 8 | 14 dBm | ±3dB |
| | | 9 | 12 dBm | ±4dB |
| | | 10 | 10 dBm | ±4dB |
| | | 11 | 8 dBm | ±4dB |
| | | 12 | 6 dBm | ±4dB |
| | | 13 | 4 dBm | ±4dB |
| | | 14 | 2 dBm | ±5dB |
| | | 15 | 0 dBm | ±5dB |

1. INTRODUCTION

| Item | Description | Specification | |
|------|-------------------------------------|------------------------------|------------|
| 5 | Spectrum due to modulation | EGSM900 | |
| | | OFFSET from Carrier (KHz) | Max. (dBm) |
| | | ± 100 | +0.5 |
| | | ± 200 | -30 |
| | | ± 250 | -33 |
| | | ± 400 | -60 |
| | | $\pm 600 \sim < \pm 1,200$ | -60 |
| | | $\pm 1,200 \sim < \pm 1,800$ | -60 |
| | | $\pm 1,800 \sim < \pm 3,000$ | -63 |
| | | $\pm 3,000 \sim < \pm 6,000$ | -65 |
| | | $\geq \pm 6,000$ | -71 |
| | | DCS1800/PCS1900 | |
| | | OFFSET from Carrier (KHz) | Max. (dBm) |
| | | ± 100 | +0.5 |
| | | ± 200 | -30 |
| | | ± 250 | -33 |
| | | ± 400 | -60 |
| | | $\pm 600 \sim < \pm 1,200$ | -60 |
| | | $\pm 1,200 \sim < \pm 1,800$ | -60 |
| | | $\pm 1,800 \sim < \pm 3,000$ | -65 |
| | | $\pm 3,000 \sim < \pm 6,000$ | -65 |
| | | $\geq \pm 6,000$ | -73 |
| 6 | Spectrum due to switching transient | EGSM900 | |
| | | OFFSET from Carrier (KHz) | Max. (dBm) |
| | | ± 400 | -19 |
| | | ± 600 | -21 |
| | | $\pm 1,200$ | -21 |
| | | $\pm 1,800$ | -24 |

1. INTRODUCTION

| Item | Description | Specification | | |
|------|-------------------------------------|--|----------|------------|
| 6 | Spectrum due to switching transient | DCS1800/PCS1900 | | |
| | | OFFSET from Carrier (KHz) | | Max. (dBm) |
| | | ±400 | | -22 |
| | | ±600 | | -24 |
| | | ±1,200 | | -24 |
| | | ±1,800 | | -27 |
| 7 | Bit Error Rate | EGSM900 BER (Class II) < 2% @ -105dBm DCS/PCS BER (Class II) < 2% @ -103dBm | | |
| 8 | SLR(Sending Loudness Ratio) | 8 +/- 3 dB | | |
| 9 | Sending Response | Frequency (Hz) | Max.(dB) | Min.(dB) |
| | | 100 | -12 | - |
| | | 200 | 0 | - |
| | | 300 | 0 | -12 |
| | | 1,000 | 0 | -6 |
| | | 2,000 | 4 | -6 |
| | | 3,000 | 4 | -6 |
| | | 3,400 | 4 | -9 |
| | | 4,000 | 0 | - |
| 10 | RLR(Receiver Loudness Ratio) | 2 ±3 dB | | |
| 11 | Receiving Response | Frequency (Hz) | Max.(dB) | Min.(dB) |
| | | 100 | -12 | - |
| | | 200 | 0 | - |
| | | 300 | 2 | -7 |
| | | 500 | * | -5 |
| | | 1,000 | 0 | -5 |
| | | 3,000 | 2 | -5 |
| | | 3,400 | 2 | -10 |
| | | 4,000 | 2 | |
| | | * Mean that adopt a straight line in between 300Hz & 1000Hz to be Max. Level in the range. | | |

2. Software Download Procedure

Tools

1. Download Cable
2. PC
3. Battery (3.8 V Li-ion Battery)

How to user Leo download tool

2.1 Install Leo Download tool



→ Choose I accept the terms in the license agreement



→ Type user name / organization. [You could type any anything or just follow it up]

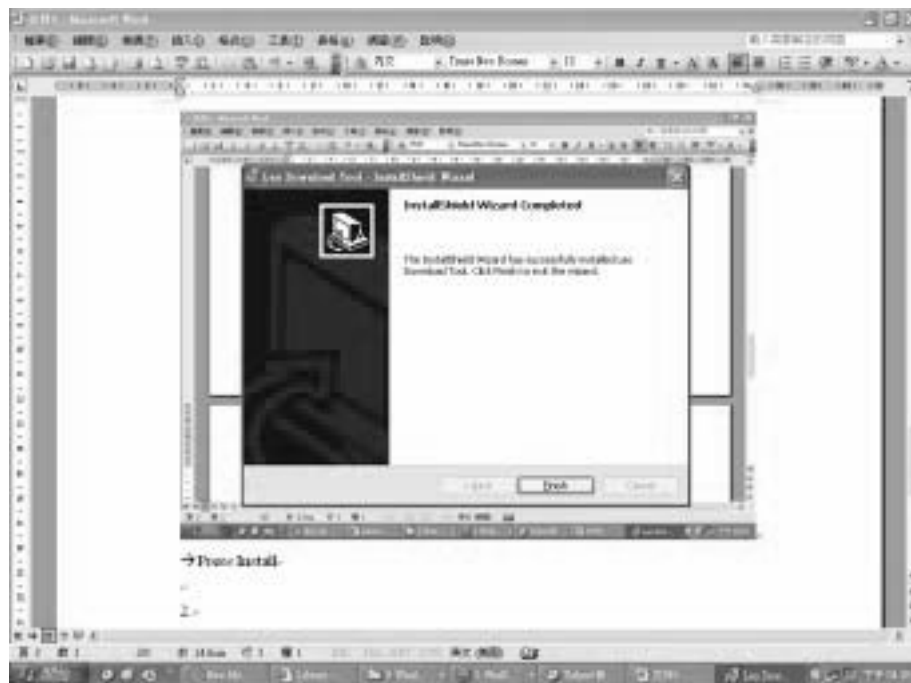


→ Select default folder

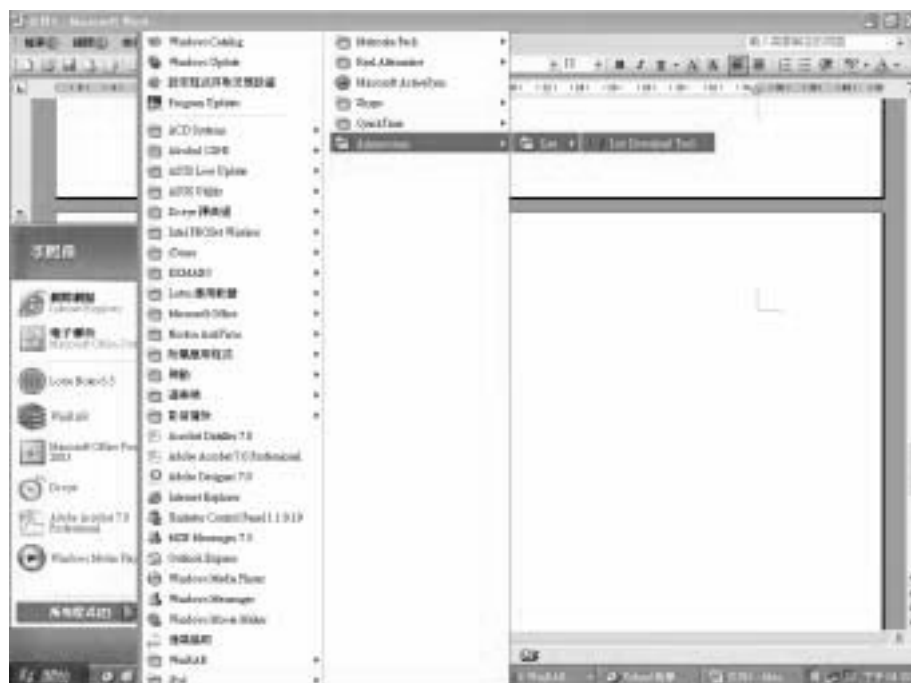


→ Press Install

2. Software Download Procedure



→ Press Finish



→ Enable Leo Download tool

2. Software Download Procedure

2.2 Connect Download cable with computer and mobile

2.3 Install SW



→ Select COM port (Maybe it will show different COM because of we use different computer)

2. Software Download Procedure

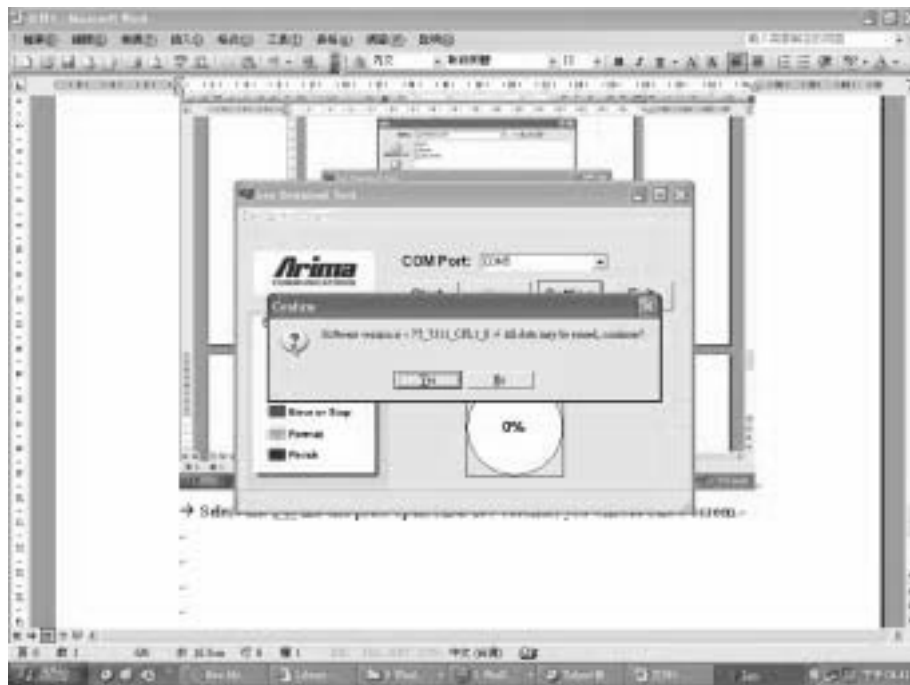


→ Press Setting and then you will see Multiport Data folder. Change it to the folder which you store the SW.



→ Select the .Pcs file and press open. After few seconds, you will see below screen.

2. Software Download Procedure



→ Press Yes



→ After you see the pink cycle, long press power on key and then you will see below picture.

2. Software Download Procedure



→ After reach to 100%, SW downloads finish.

2.4 Check Software version

2.4.1 Install battery and power on phone.

2.4.2 Press 8 7 8 (SIM card not installed) or * # 8 7 8 # (SIM card installed) to enter service mode.

2.4.3 Select 3. Version → 1. Version Info Summary to check Software Version

2.4.4 Quickly to check SW version: * # 8 3 7 5 #

2.4.5 Quickly to change to English language: * # 0 8 8 6 #

= Send Key



3. Assembly and Disassembly

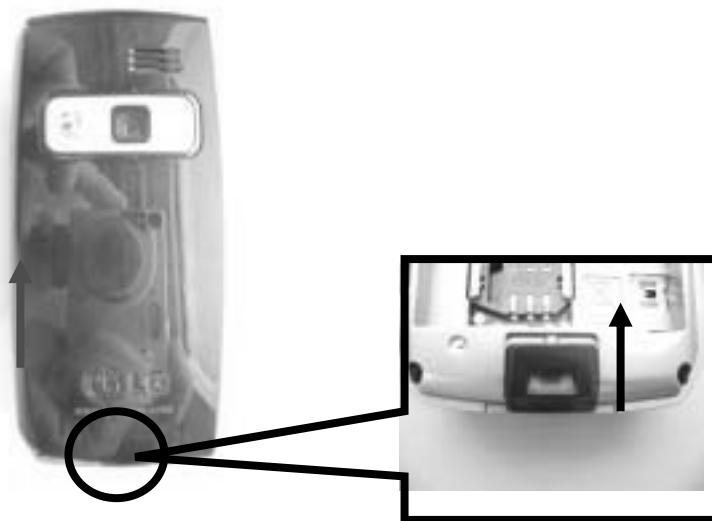
3. Assembly and Disassembly

Tools

- * Torque screwdriver, \oplus no.6 set
- * Pair of tweezers
- * Guitar Pick

3.1 Disassembly

- i. Take off battery cover



3. Assembly and Disassembly

ii. Release 4 screws from B-Cover.



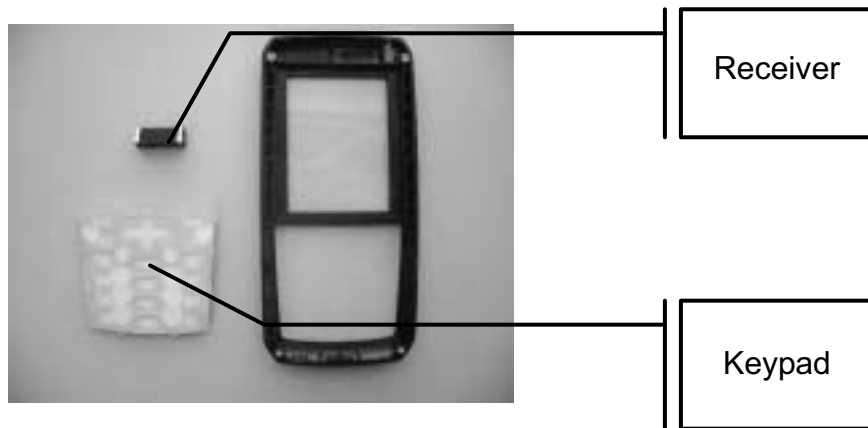
iii. Use the Guitar Pick to take off A-Cover



iv. Remove the Receiver and Key Pad from A-Cover



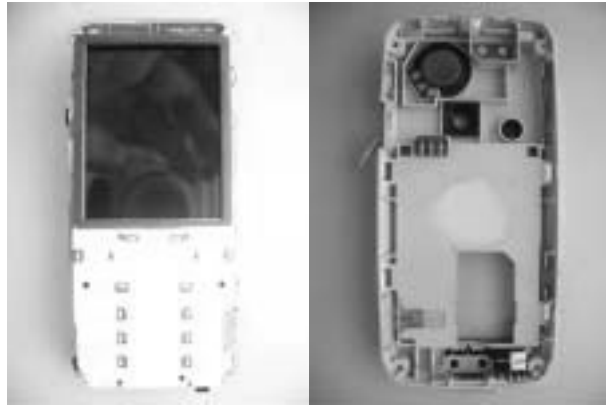
3. Assembly and Disassembly



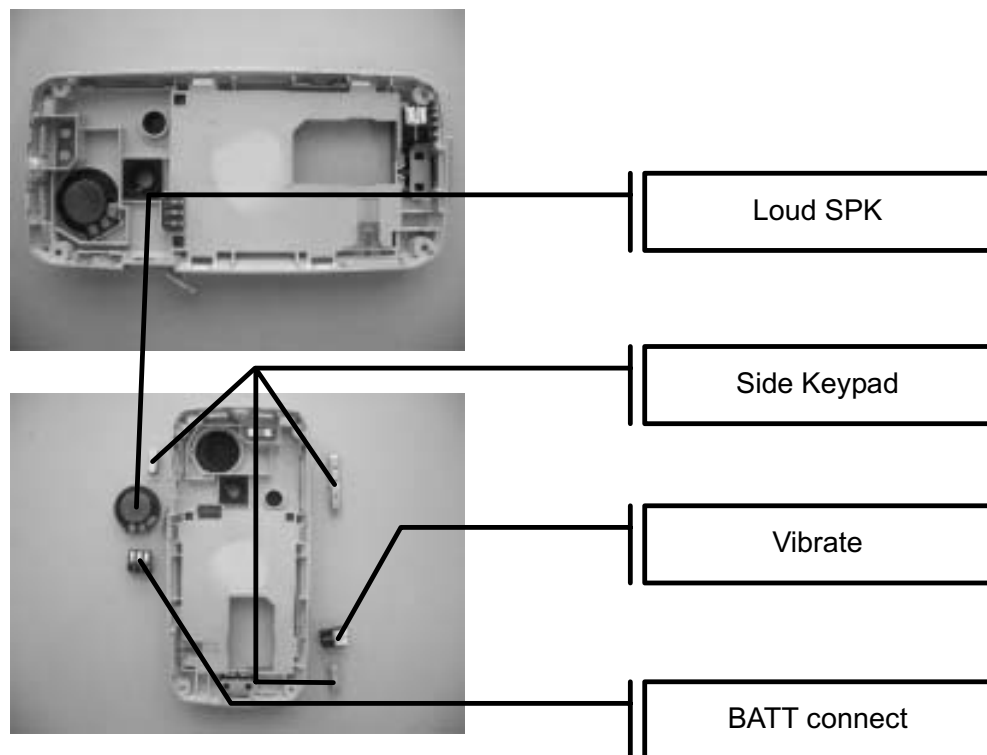
v. Take off the Main Board from B-Cover



3. Assembly and Disassembly



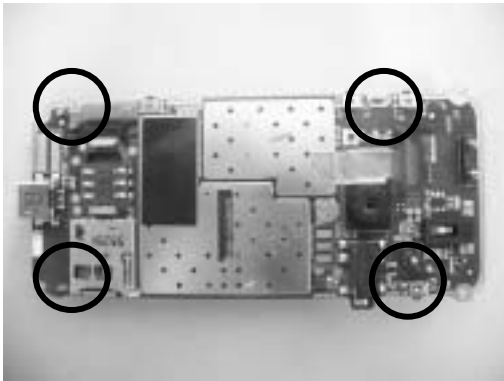
vi. Take off the Loud Speaker, Vibrator, side keys, BATT connect and from B-Cover.



3. Assembly and Disassembly

vii. Take off the LCM from Main Board

1. Release the hook of LCM cover from back side.



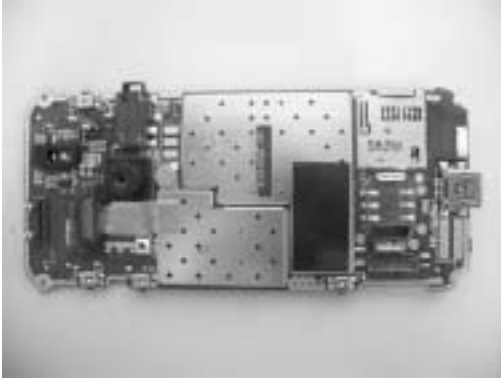
2. Release the LCM connect from Main Board

3. Take off LCM from LCM place.



3. Assembly and Disassembly

viii. Take off the LCM from Main Board



3.2 Assembly

Please do the reverse steps of disassembly for assembly phone.

4. Troubleshooting

4. Troubleshooting

Explanations

The Go / No Go test has to be performed with a mounted phone.

Service function in the software

The service menu will be accessed with the following key combination.

* # 8 7 8 # (SIM card in side) or 8 7 8 (No SIM card in side)

In the software of the phone there is a built in service functionality that allows you to test some of the functions of the phone. This is how it looks:

- | | |
|-----------------|---------------------|
| 1. Auto test | 12. Receiver |
| 2. BT Mode | ADC |
| 3. Version | 14. Charger |
| 4. Resource BIN | 15. Headset |
| 5. Echo Loop | 16. RTC |
| 6. Keypad | 17. MTBF |
| 7. Vibrator | 18. UART |
| 8. Loud SPK | 19. Memory Card |
| 9. Ring Tone | 20. Nand Flash |
| 10. LED | 21. Camera |
| 11. LCD | 22. Total call time |
| | 23. FM Radio |

Network Problems

Make a general visual inspection for corrosion or oxidation from liquid damage.

Check that the antenna connects is properly fitted and undamaged (Fig.1.1).

Replace the antenna if necessary.

Check that the antenna Flex Film (Fig 1.2) is not mechanical damaged, dirty or oxidized. Replace it if necessary.

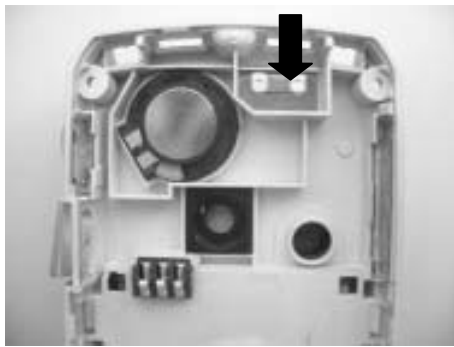
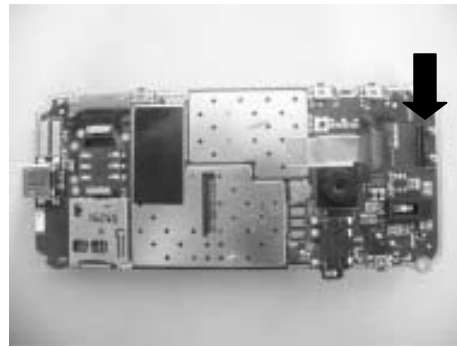


Fig 1.1



Figs 1.2

On/Off problems

Make a general visual inspection for corrosion or oxidation from liquid damage.

Check that the battery connector pins (Fig.2.1.) are dirty or oxidized. If necessary clean the battery pads.

Check that the Battery (Fig.2.2.) is not mechanical damaged, dirty or oxidized.

Change it if necessary.

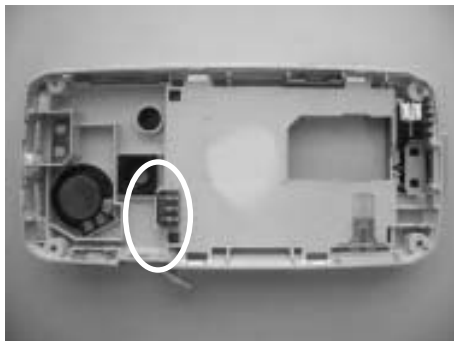


Fig.2.1



Fig.2.2

4. Troubleshooting

Audio problems

Receiver

Turn on the phone. Go to service test menu; choose “12. Receiver” presses any key to check that the Receiver is working properly.

Check Receiver and receiver connector (Fig 3.1)

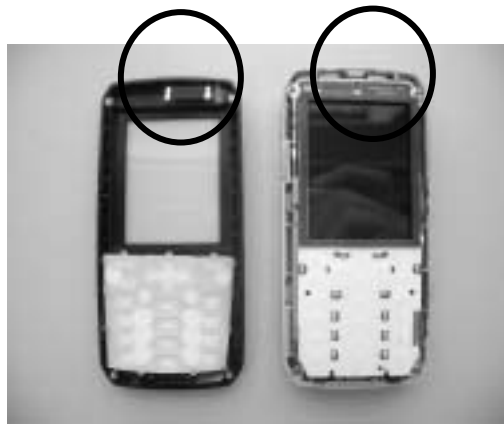


Fig.3.1

Microphone

1. Turn on the phone. Go to service test menu; choose “5. Echo Loop” (An audio loop is activated) check that the Microphone is working properly.

Check that the Microphone (Fig.4.1) is not mechanical damaged, dirty or oxidized.

Replace it if necessary.



Fig.4.1

Display/Illumination problems

Make a general visual inspection for corrosion or oxidation from liquid damage.

Turn the phone on. Check the LCD and the illumination. The illumination is lightened when the phone starts and will continue for approximately 20 sec

Turn the phone on. Go to service test menu; choose “11. LCD” . You should see a pattern check that no lines or pixels are missing and that there are no discolorations. If necessary replace the LCM.

If all segments are missing check that the LCD connector (Fig.5.1) and LCD FPC is not mechanical damaged, dirty or oxidized.

Turn the phone on. Go to service test menu; choose “10. LED” . The illumination should start flashing (Fig 5.2) .

Check that all 12 Keypad LEDs have the same illumination strength. If necessary replace the LED with the weakest light. Repeat this step until all LEDs light ever over the keypad.



Fig.5.1



Fig.5.2

4. Troubleshooting

Capacity/Charging Problems

Make a general visual inspection for corrosion or oxidation from liquid damage.

Charging

Insert a working battery and connect a working charger to the phone. If the battery voltage is too low, you must charge the battery without turning on the phone (this will usually take less than 10 minutes) and when the battery voltage is high enough the phone will be able to turn on and show charging in the Display.

Check that the system connector (Fig.6.1) is incorrectly soldered, not mechanical damaged, dirty or oxidized. Replace it if necessary.

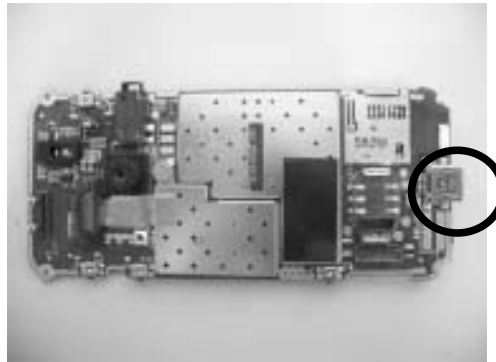


Fig.6.1

SIM Problems

Make a general visual inspection for corrosion or oxidation from liquid damage.

Insert a SIM card with known function. If the display shows "Insert card" there is a SIM problem. If it shows "Insert correct card" the phone might be SIM locked in this case use a test SIM card.

Check that the SIM reader (Fig.7.1) is incorrectly soldered, not mechanical damaged, dirty or oxidized. Replace it if necessary.

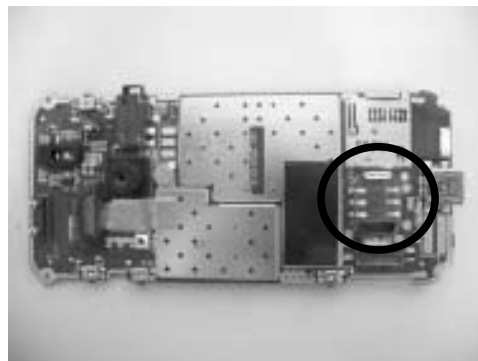


Fig.7.1

Key Function Problems

Make a general visual inspection for corrosion or oxidation from liquid damage .

Turn the phone on. Go to service test menu; choose “6.Keypad”. Press all the buttons. The pressed key will be shown in the Main display.

Check that the mechanical response feels normal and that all the keys had been shown in the Main display. Replace the Metal dome If necessary (Fig.8.1.).

Check that the mechanical response feels normal and that all the keys had been shown in the Main display. Check the keypad connector. (Fig.8.2.).



Fig.8.1

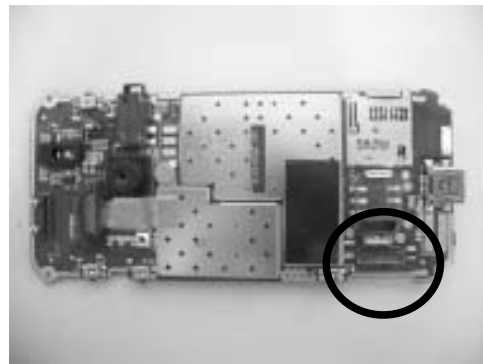


Fig.8.2

Data Communication Problems

If no communication is accomplished with the system connector:

Make a general visual inspection for corrosion or oxidation from liquid damage

Check that the system connector (Fig.9.1.) is incorrectly soldered, not mechanical damaged, dirty or oxidized. Replace it if necessary.

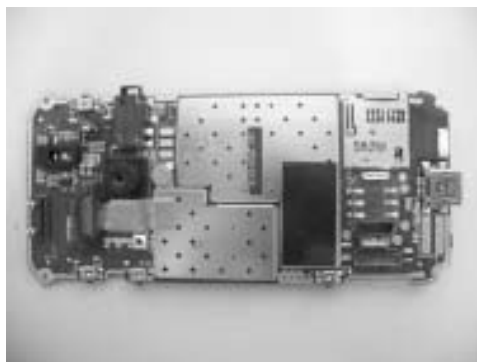


Fig.9.1

4. Troubleshooting

Other Problems

Make a general visual inspection for corrosion or oxidation from liquid damage according to point.

Turn on the phone. Go to service test menu; choose "16. RTC" press any key to check that the RTC is working properly.

Check that the clock is working and that it does not start up with 00:00 when a battery is mounted.
Replace the Backup battery if necessary (Fig.10.1).

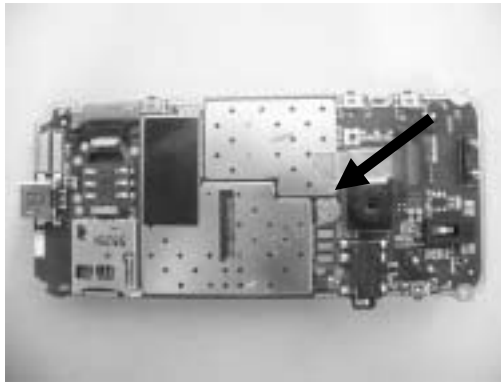
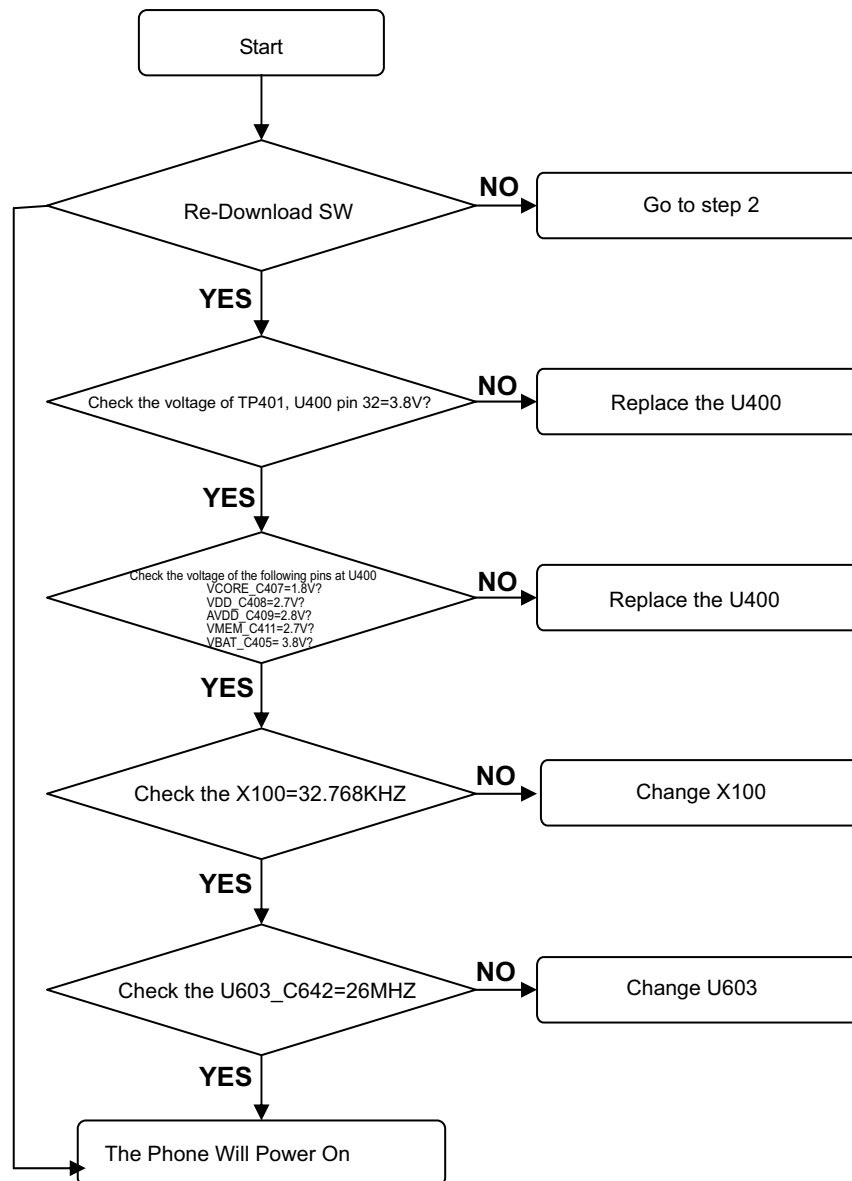
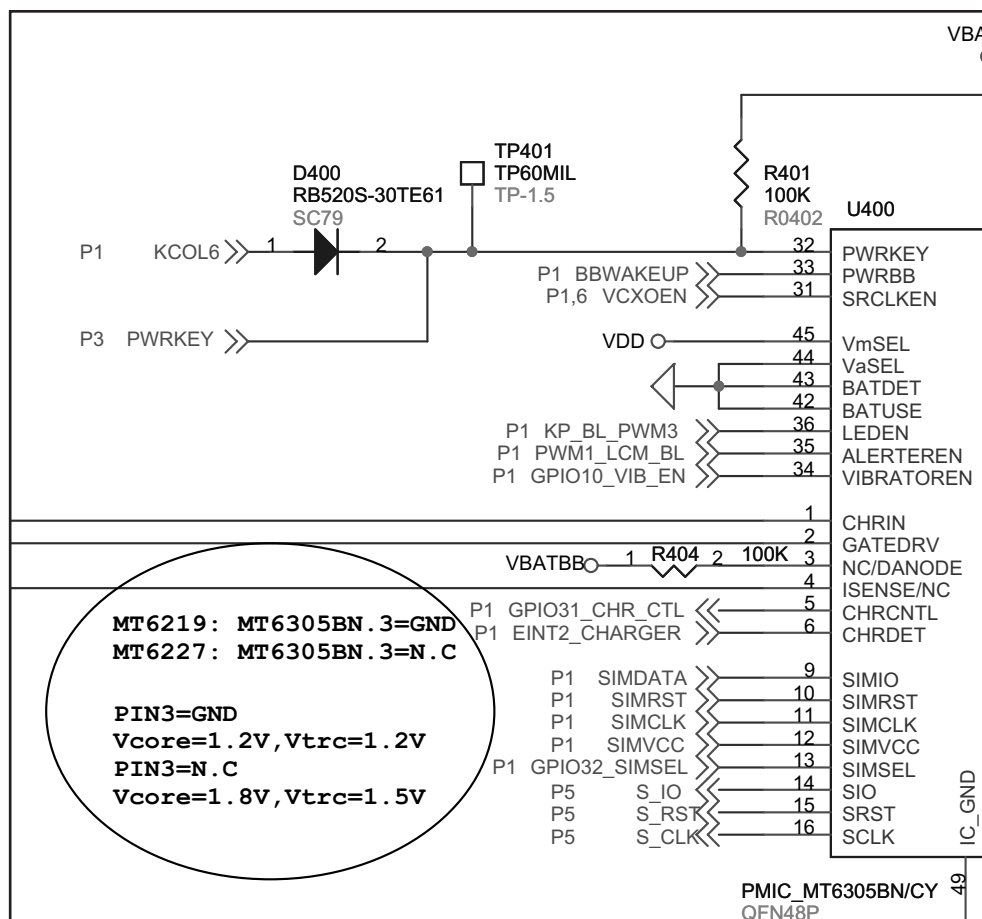
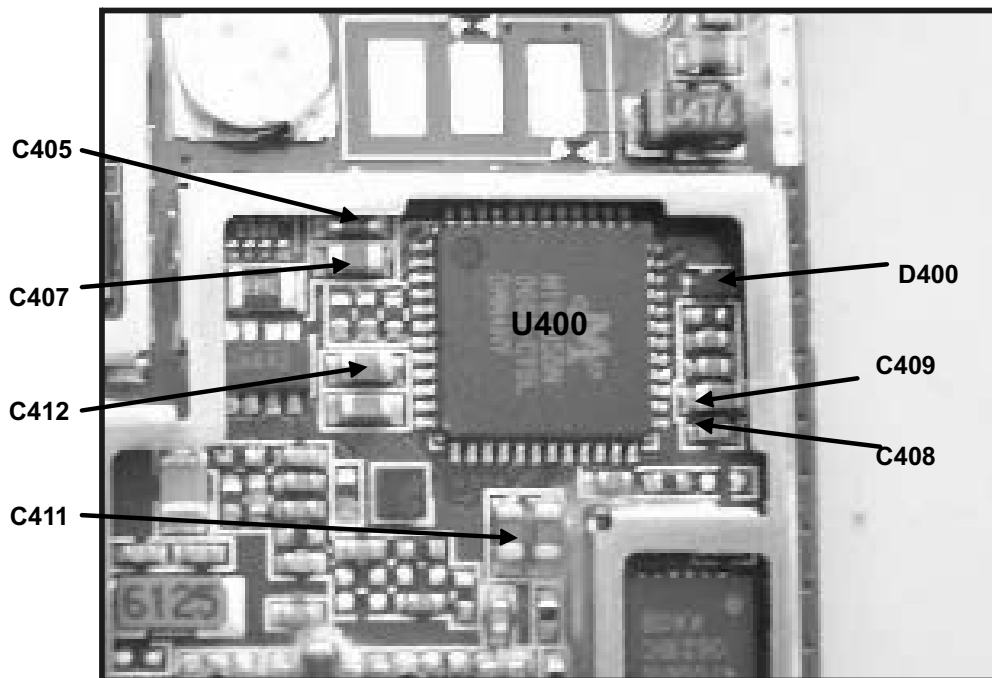


Fig.10.1

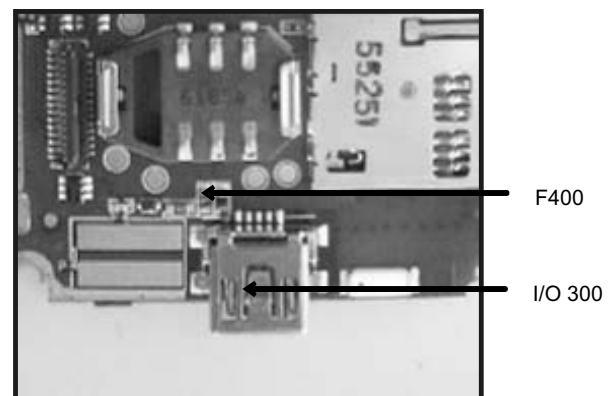
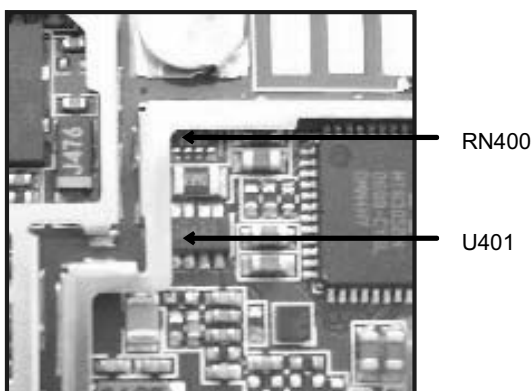
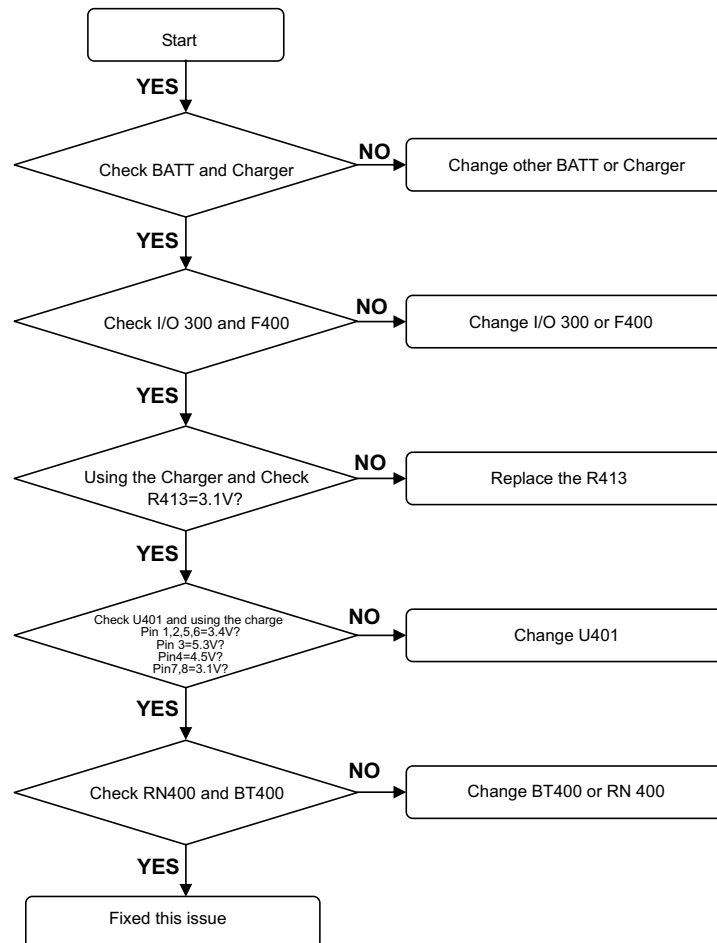
Power On/Off & Hang Problem

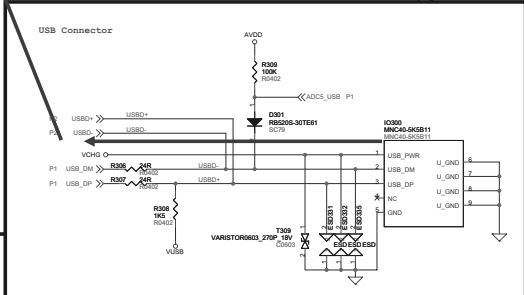


4. Troubleshooting

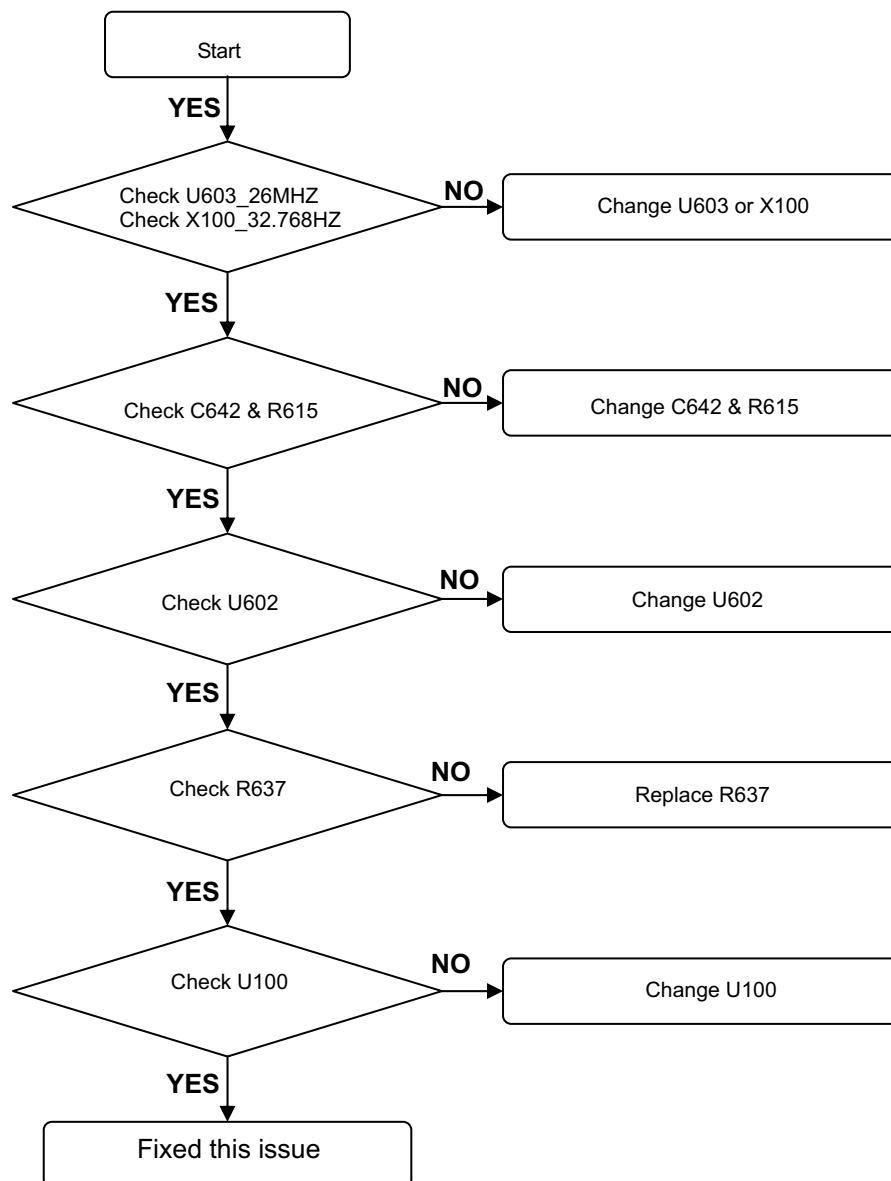


KG300 Charging Problem

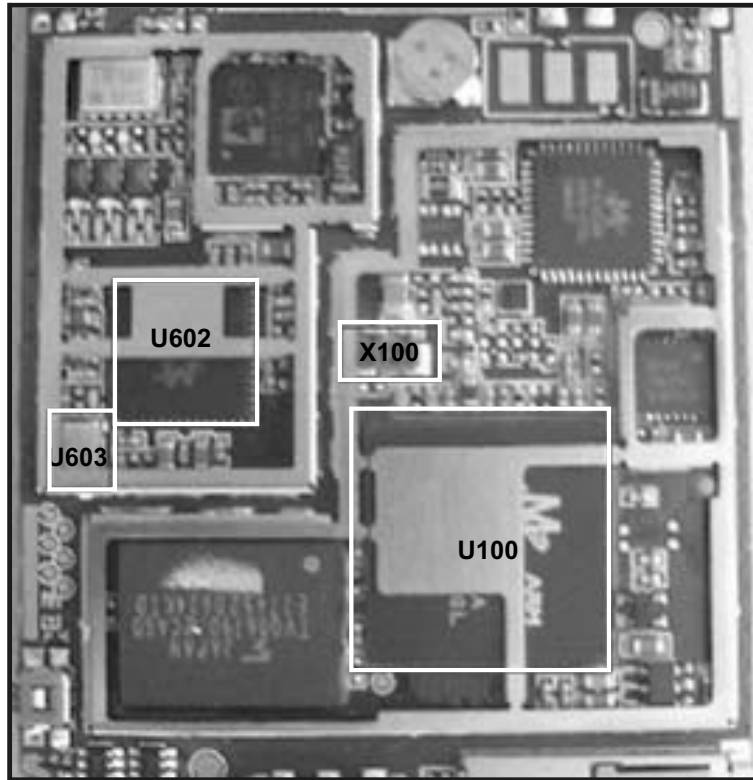




KG300 Clock Problem



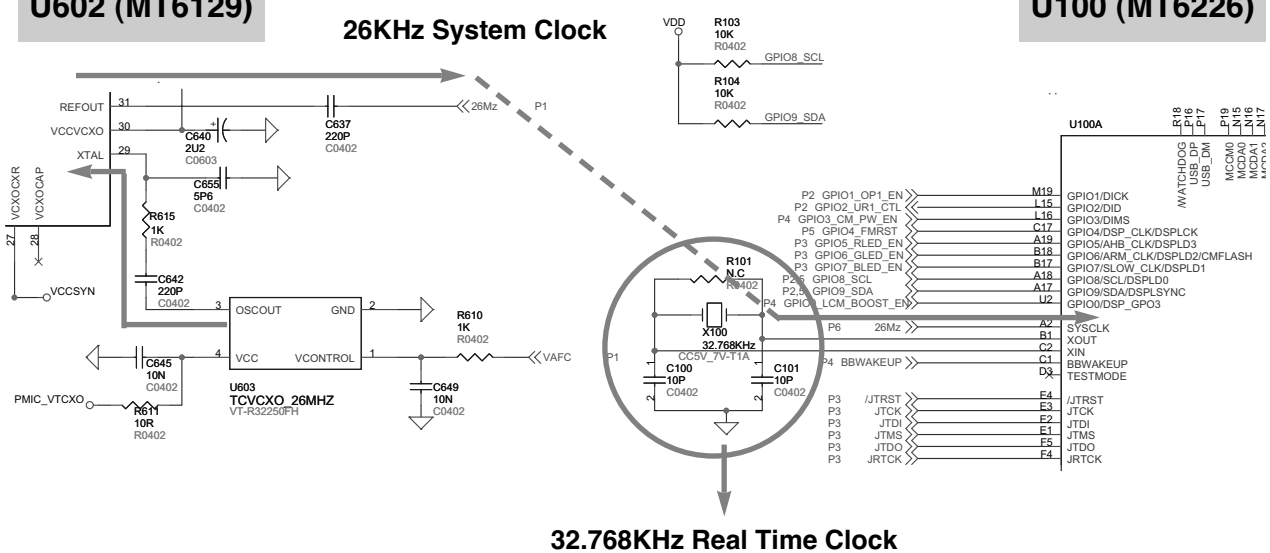
4. Troubleshooting



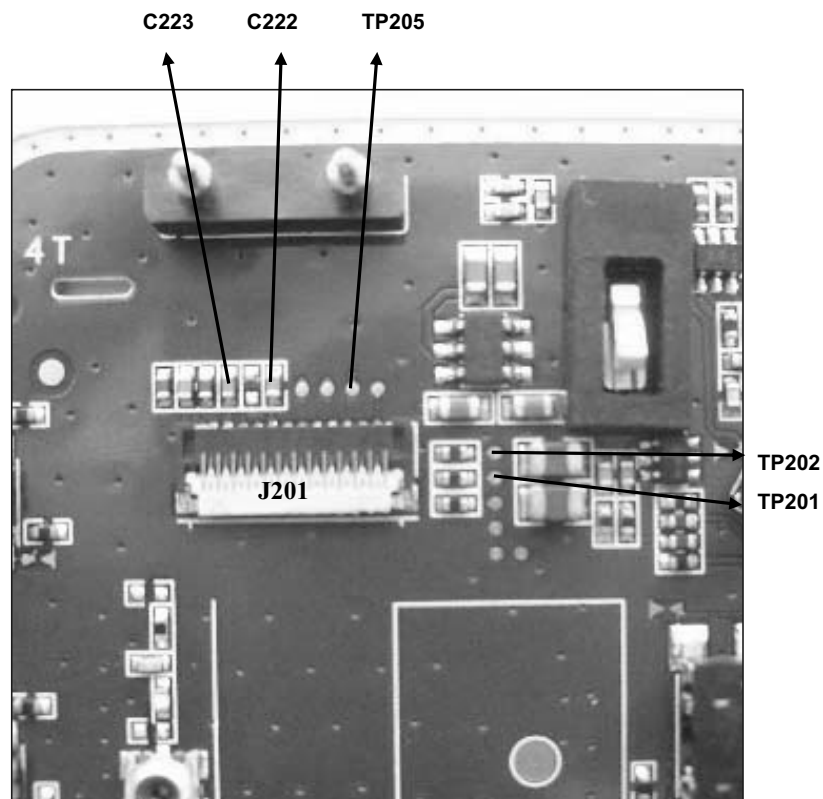
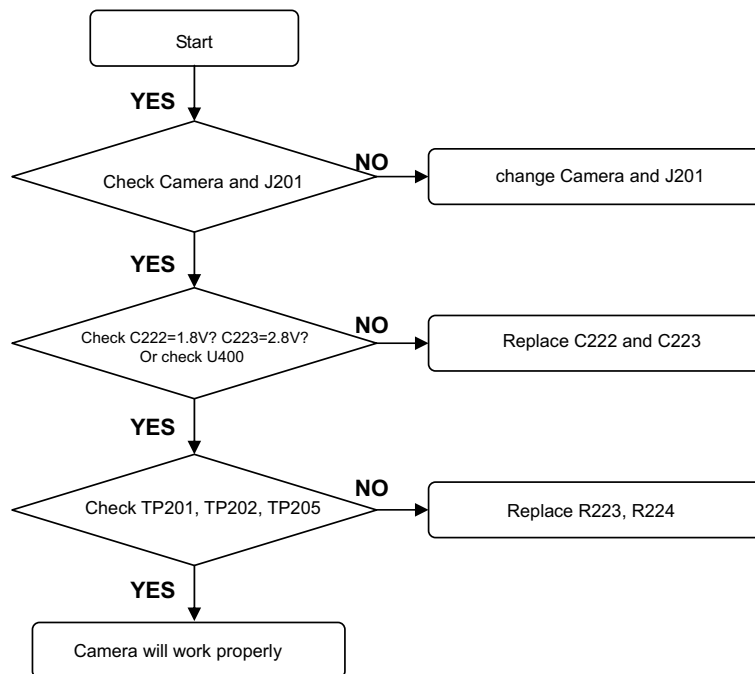
U602 (MT6129)

26KHz System Clock

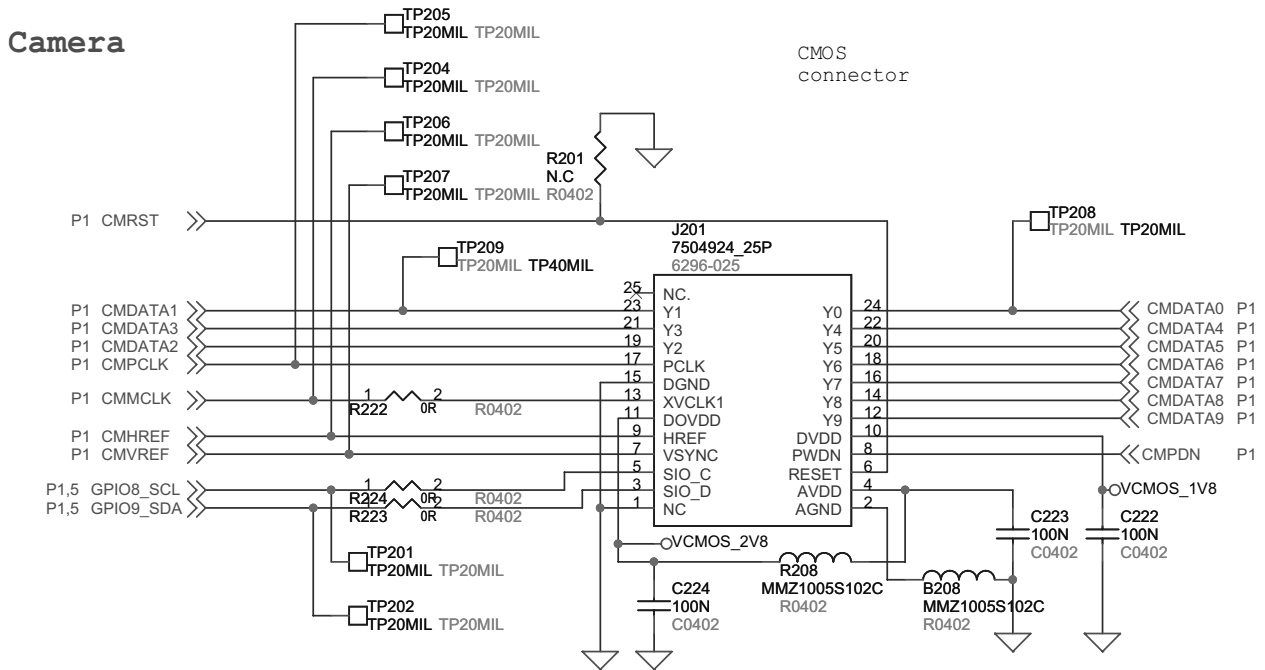
U100 (MT6226)



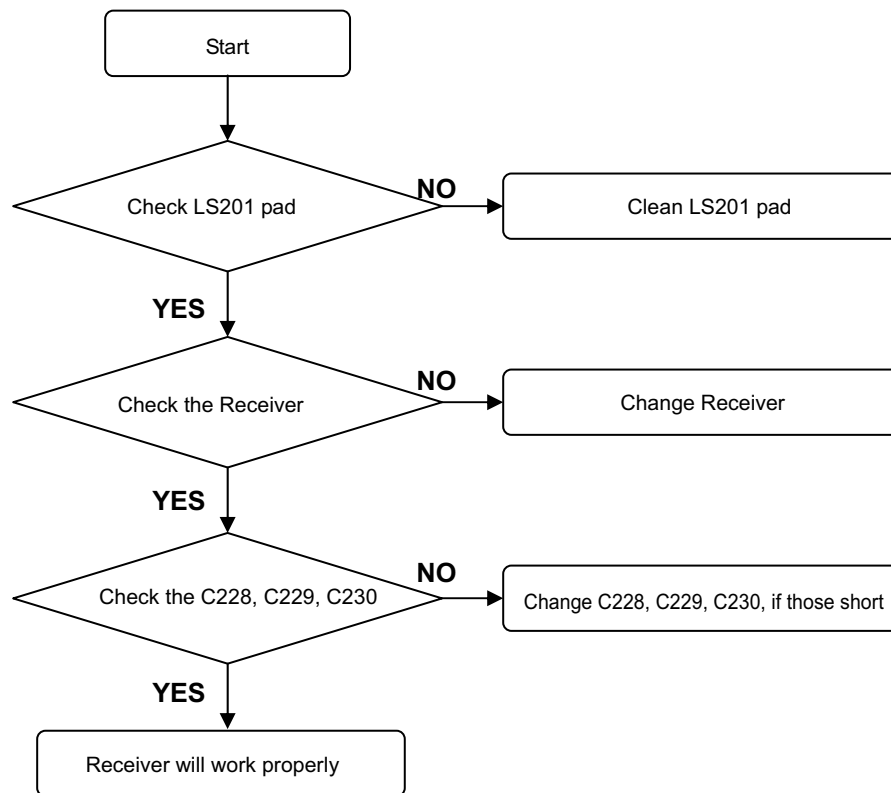
Camera Problem



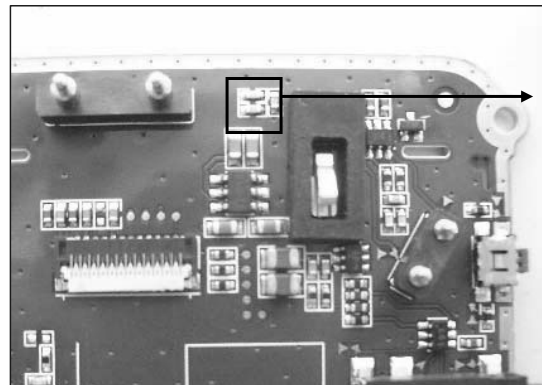
4. Troubleshooting



Audio Problem [Receiver problem]



4. Troubleshooting



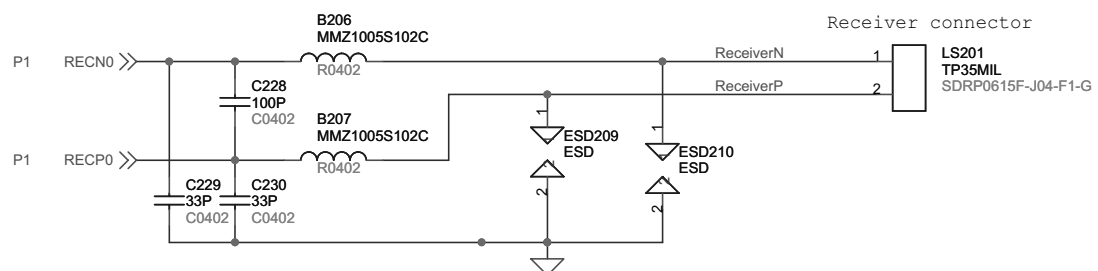
C228, C229, C230,



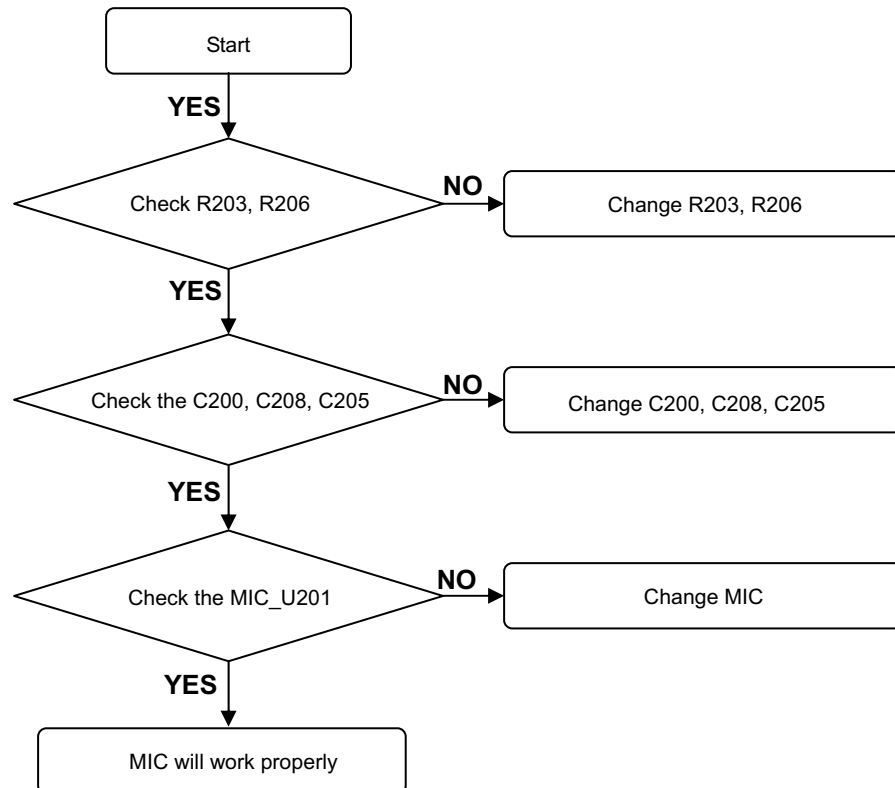
LS201

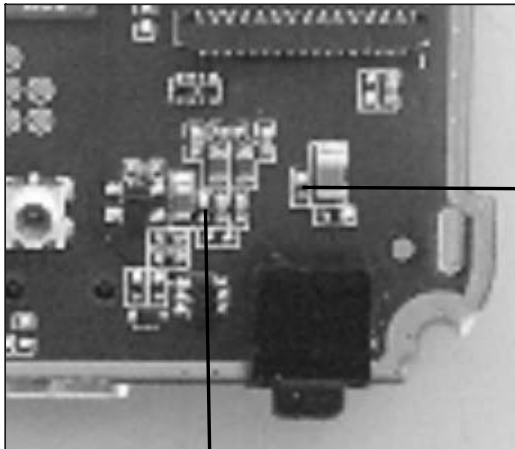
Receiver

AAC reciver :
SDRP0615FJ01-F1-G

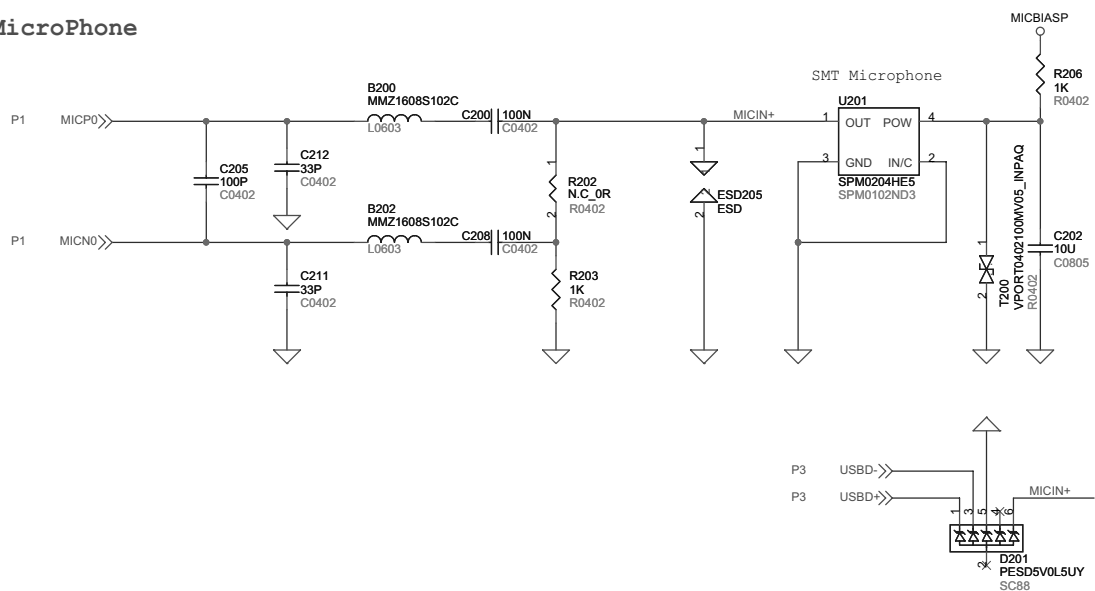


Audio Problem [MIC problem]

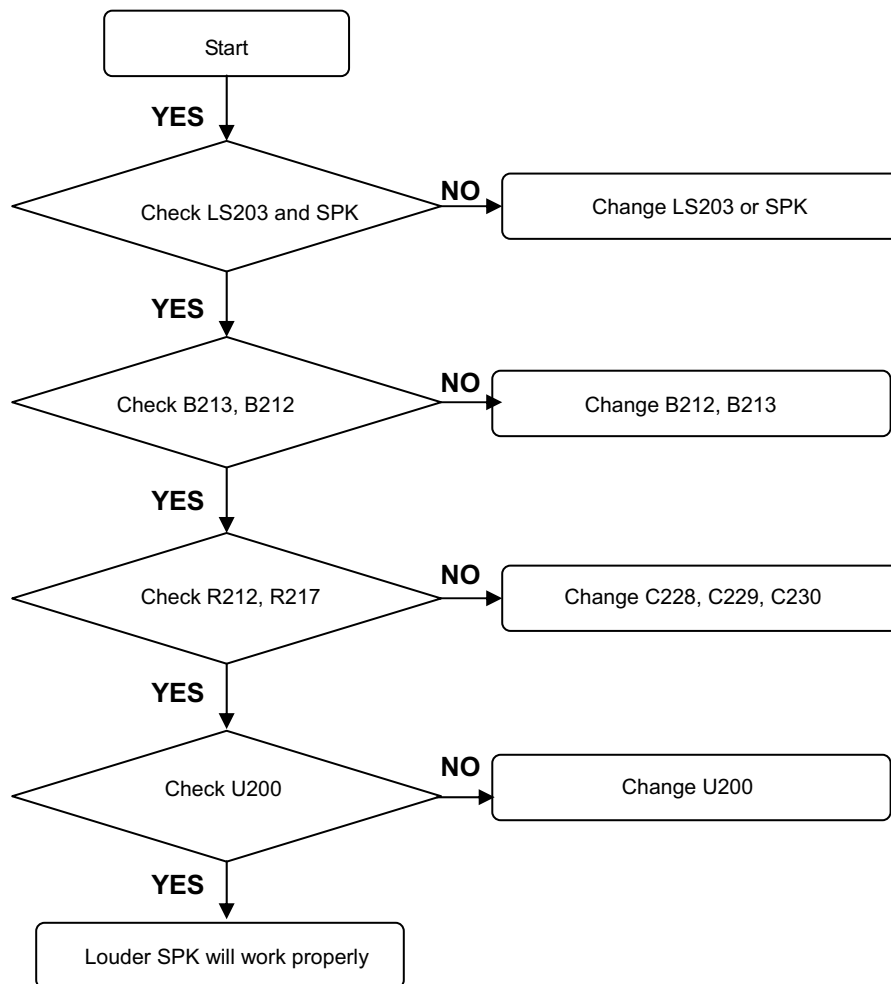




MicroPhone

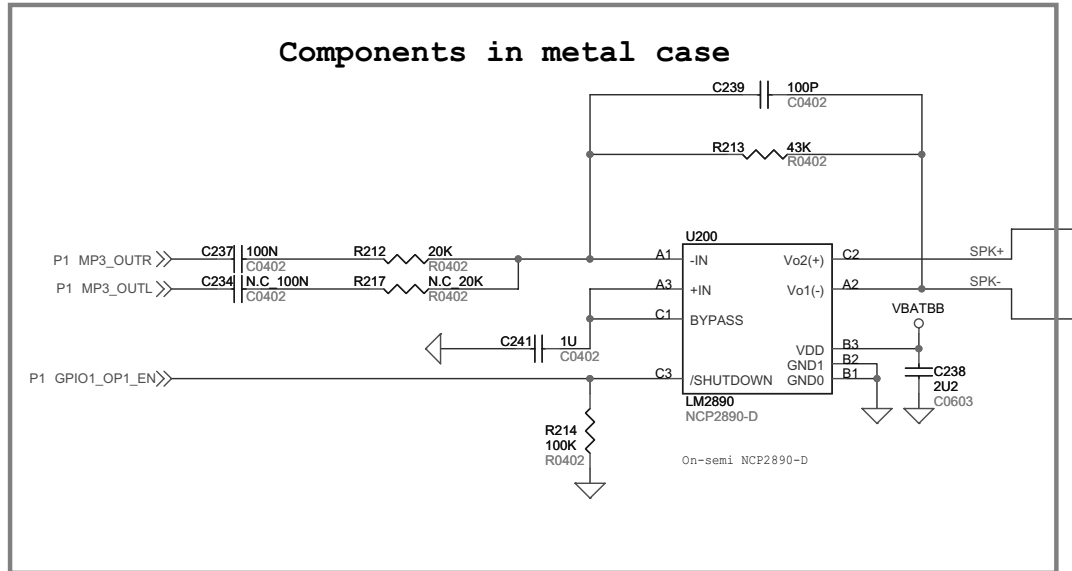


Audio Problem [Louder SPK problem]

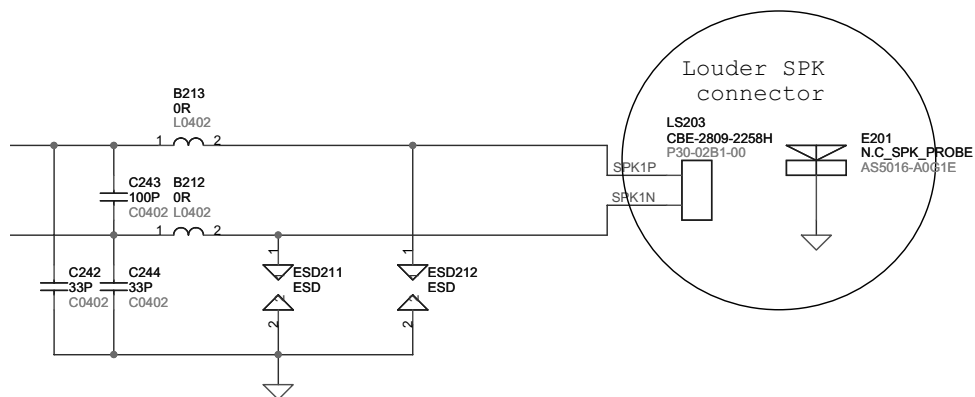


4. Troubleshooting

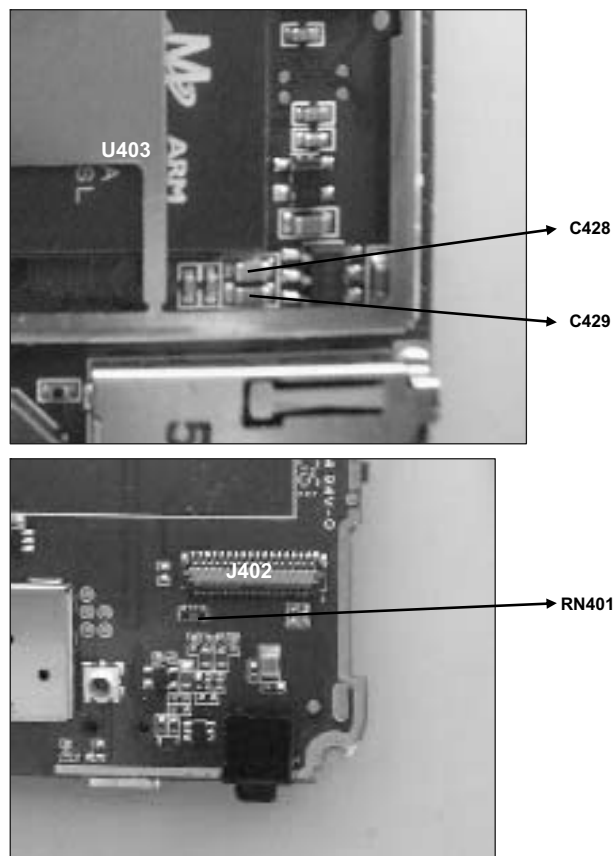
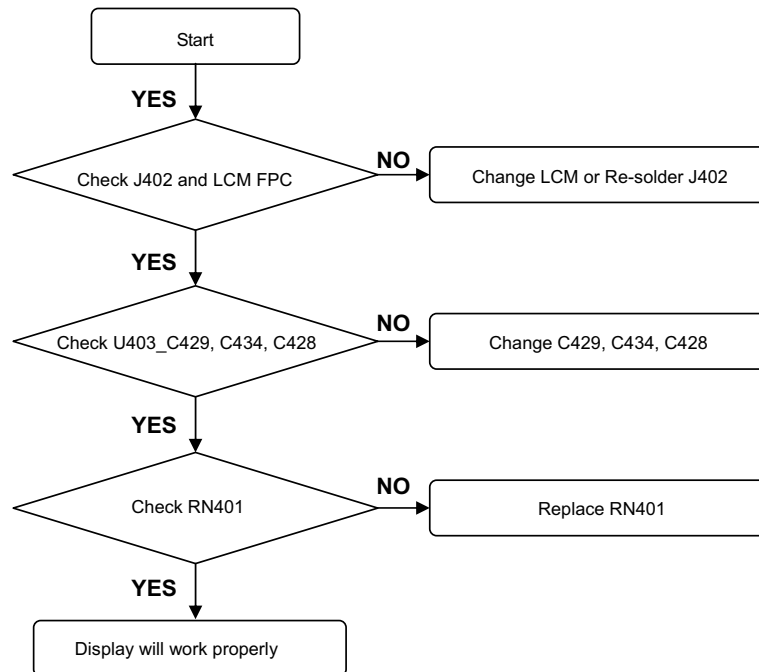
Louder SPK



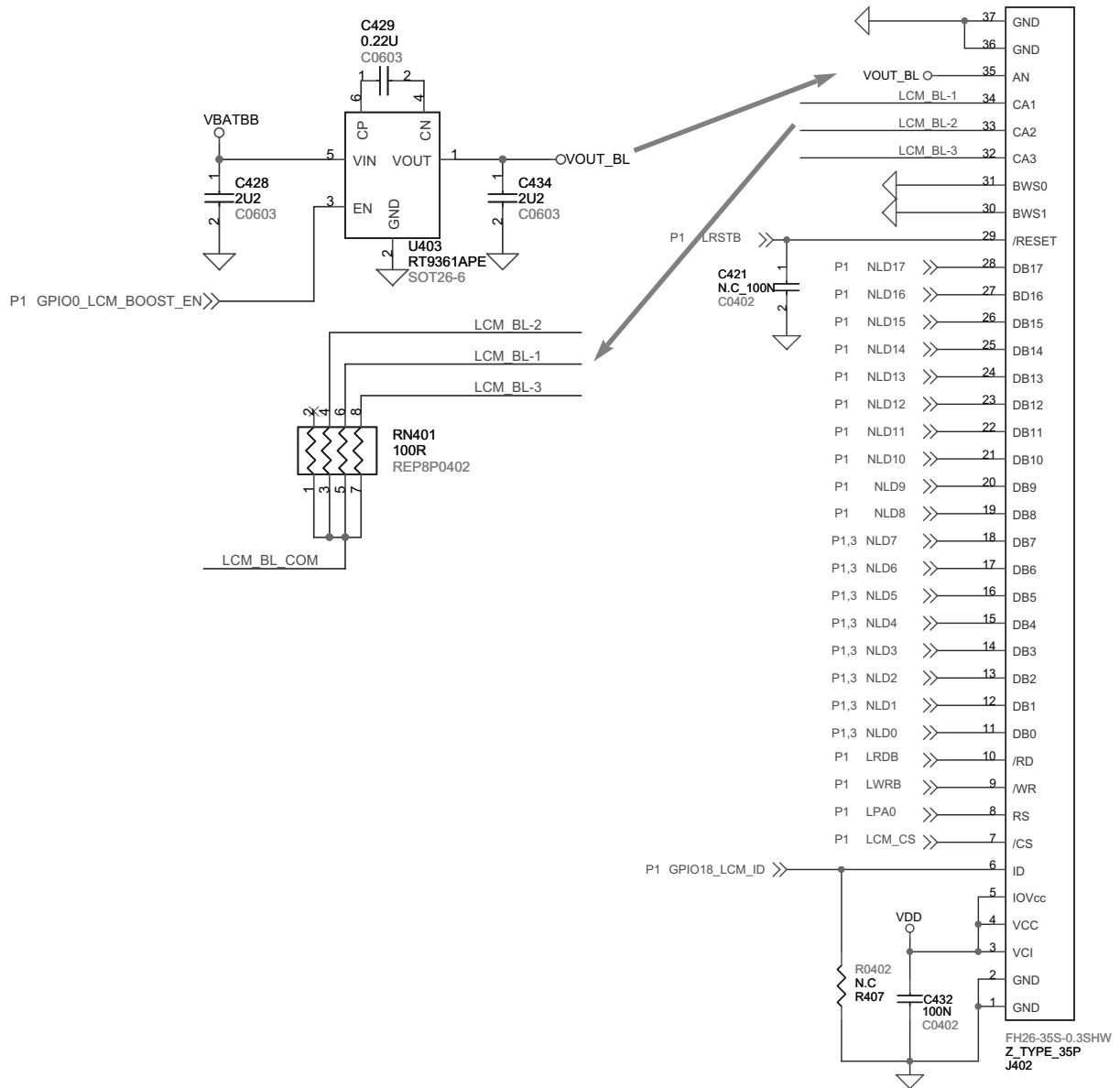
AAC SPK :
DMS1608F-02-PC-G



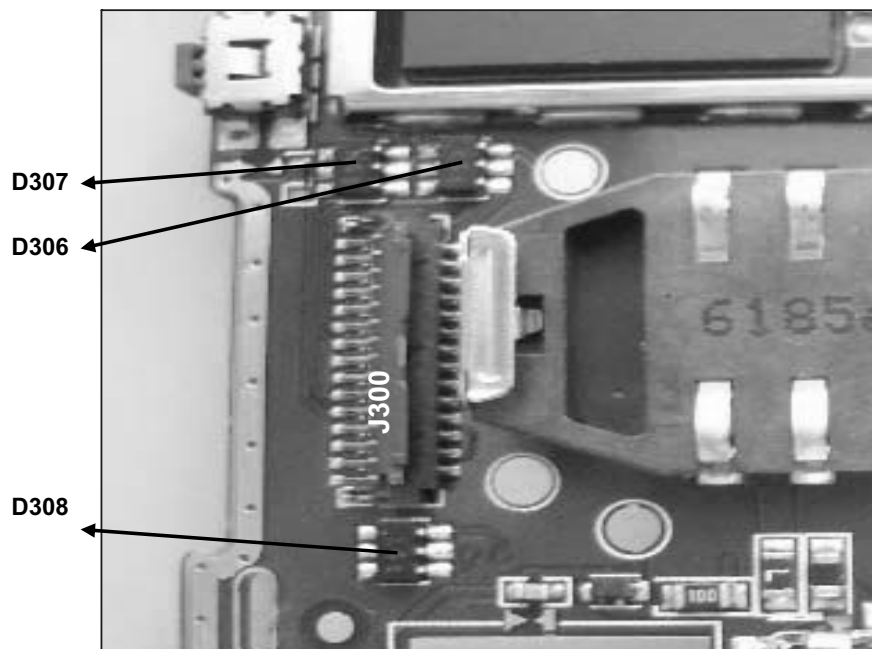
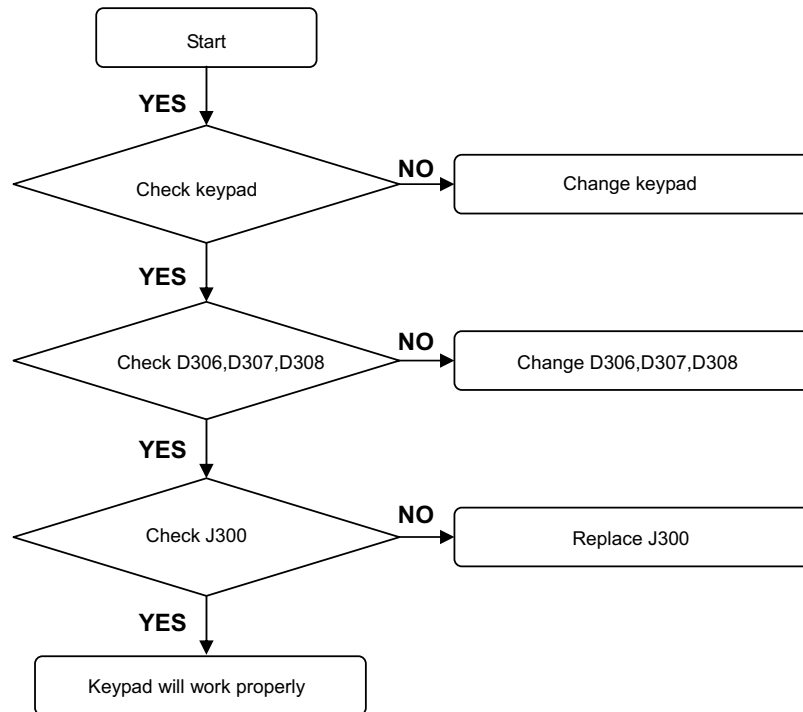
Display Problem



4. Troubleshooting



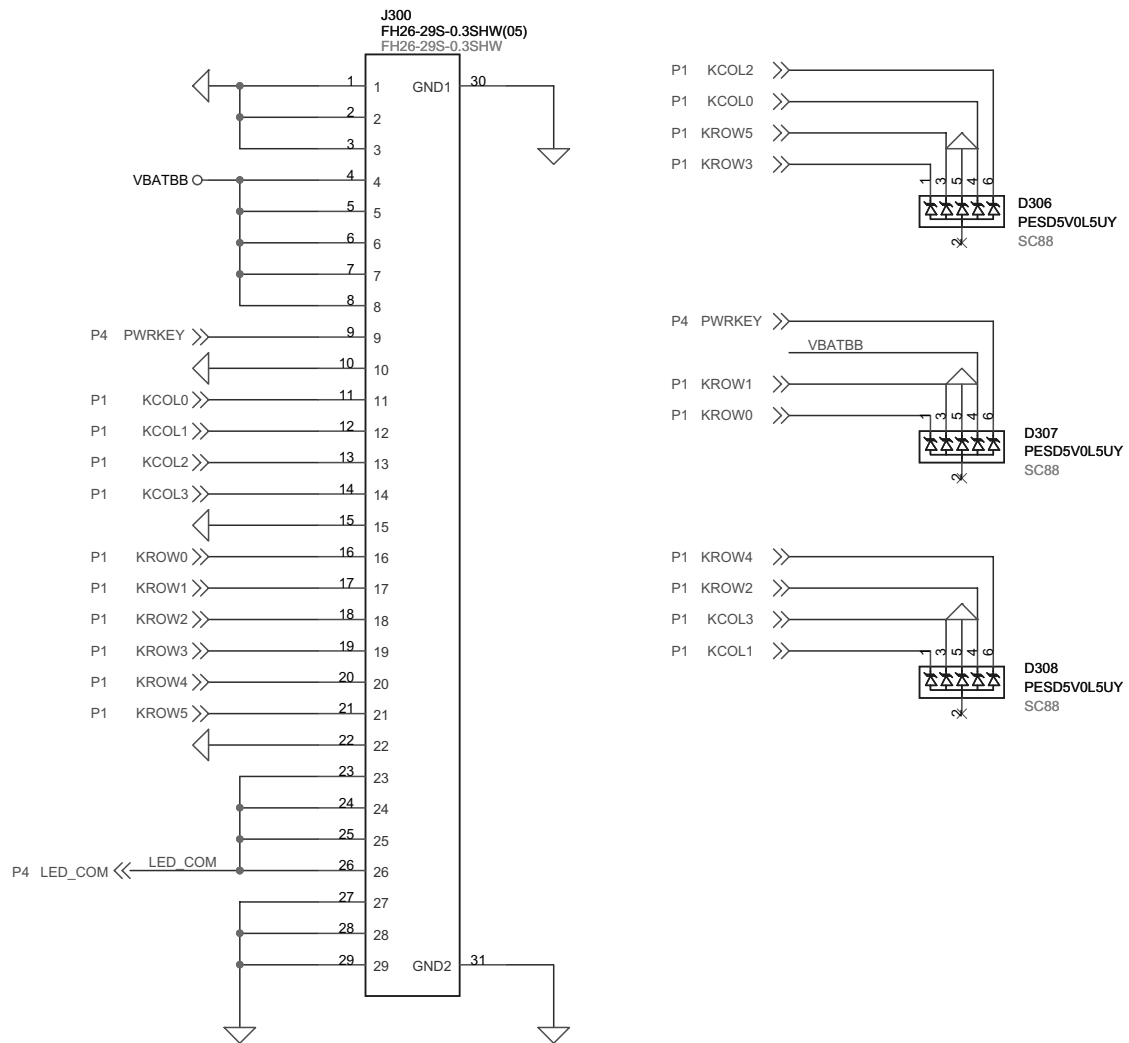
Keypad Problem



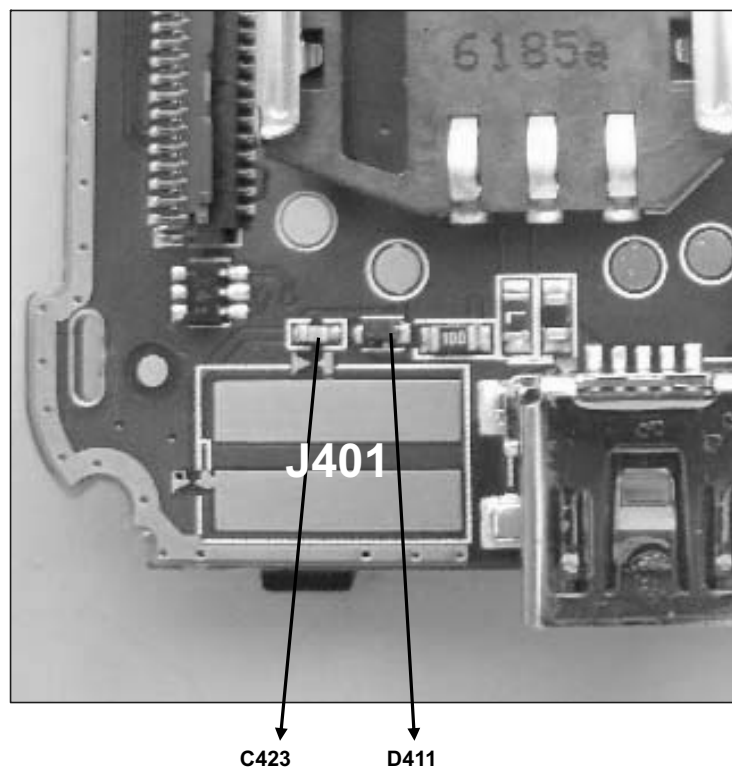
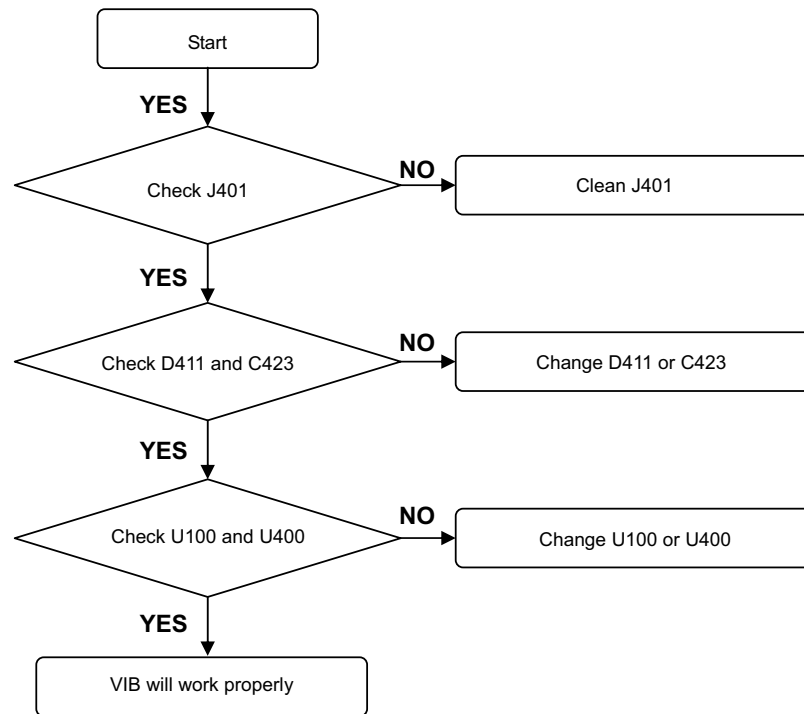
4. Troubleshooting

KEYPAD Connector

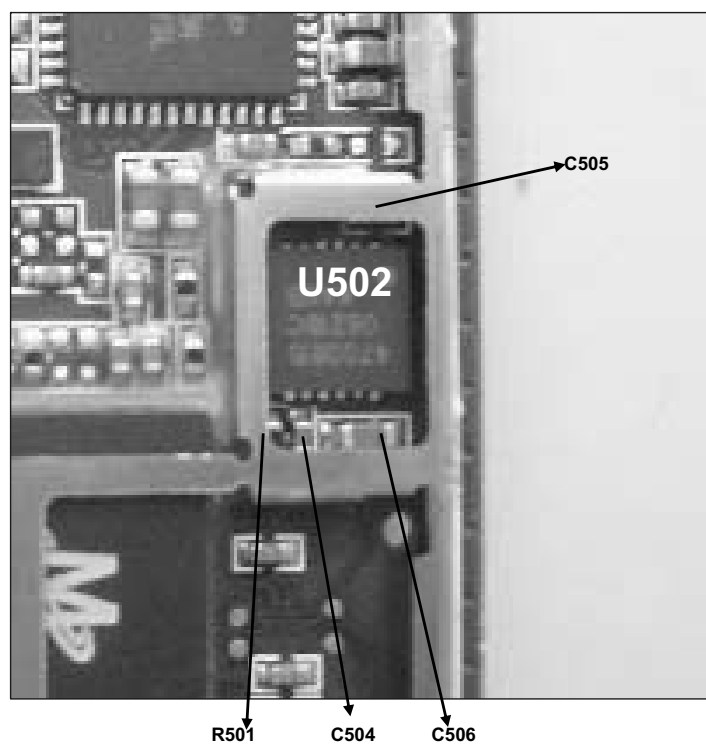
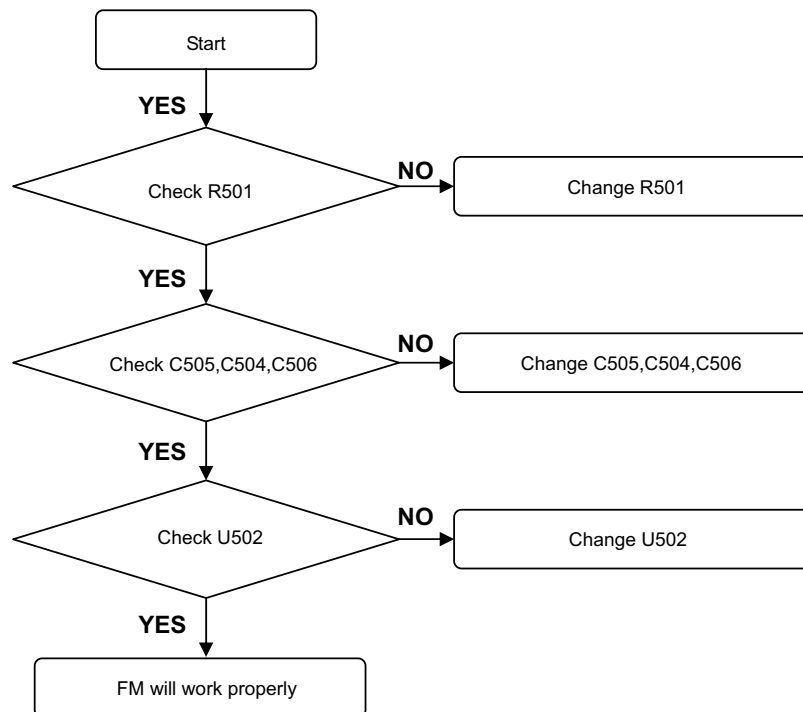
Components close to connector



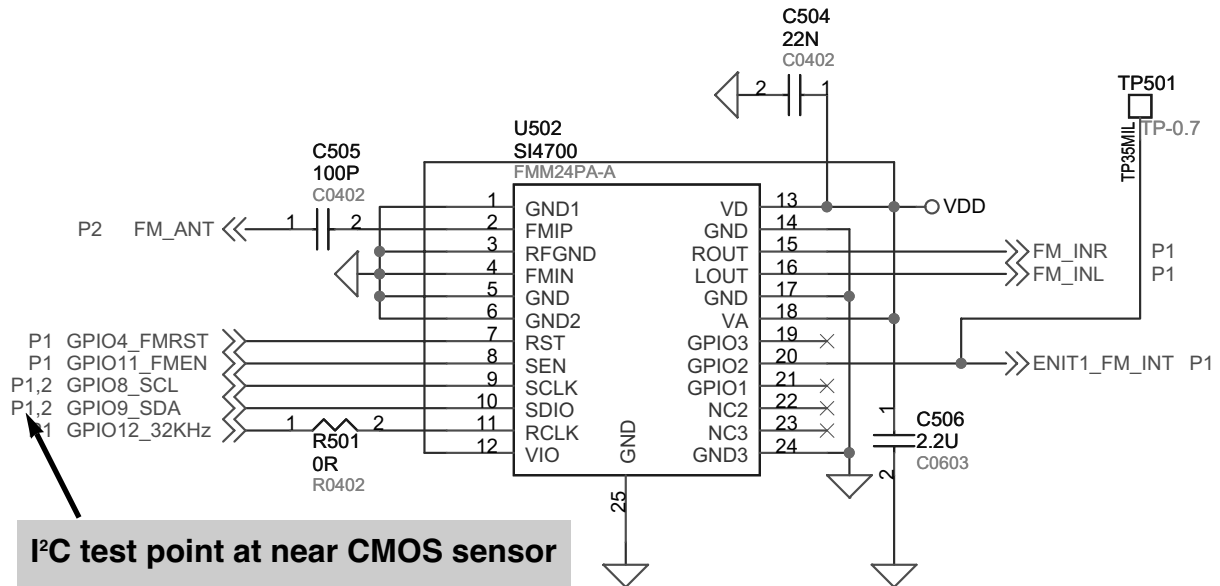
VIB Problem



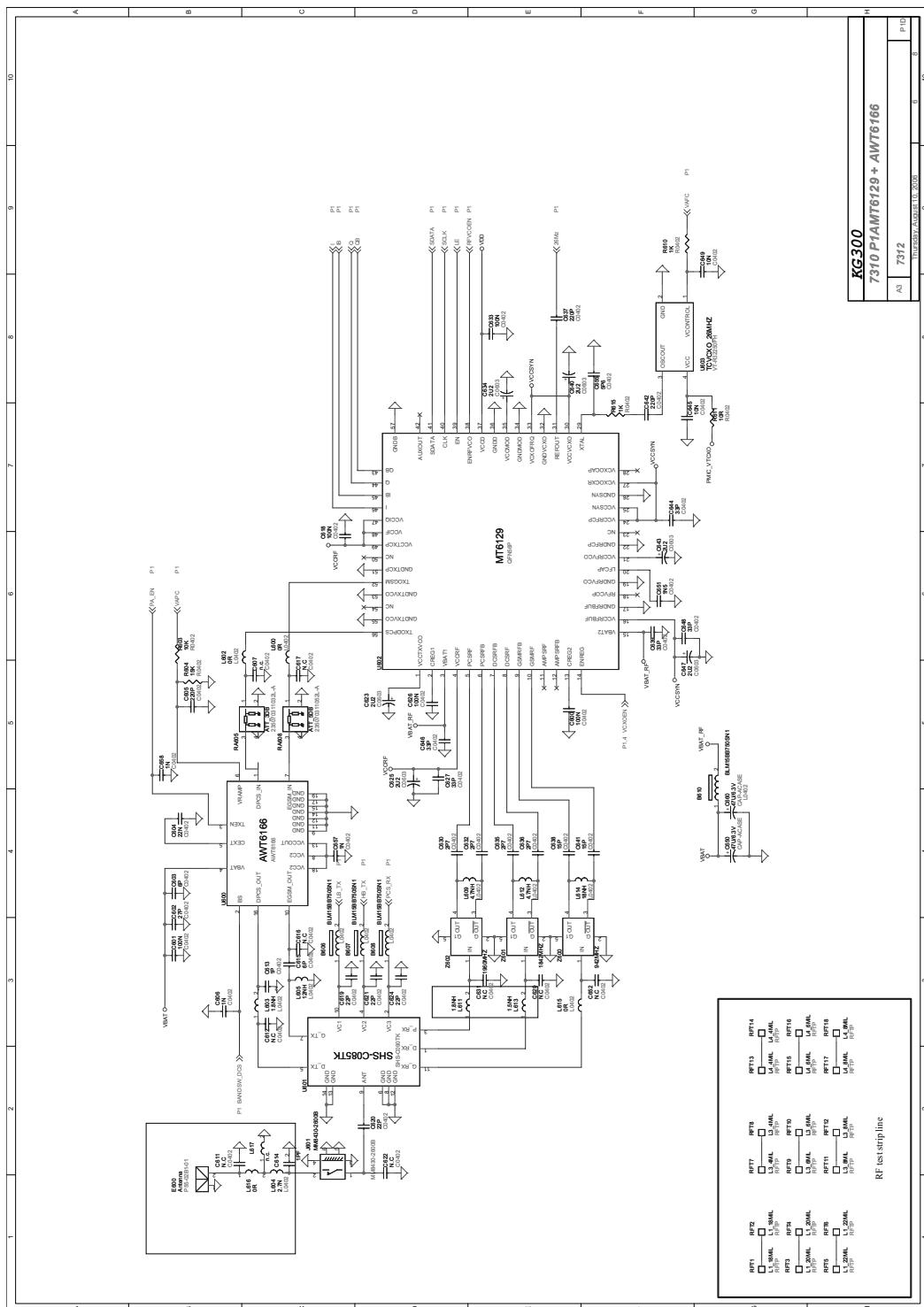
FM Problem

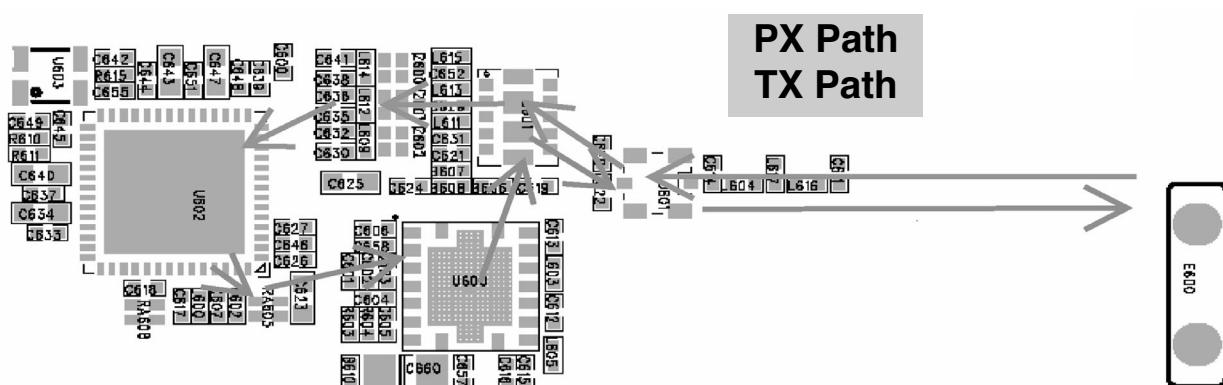


4. Troubleshooting



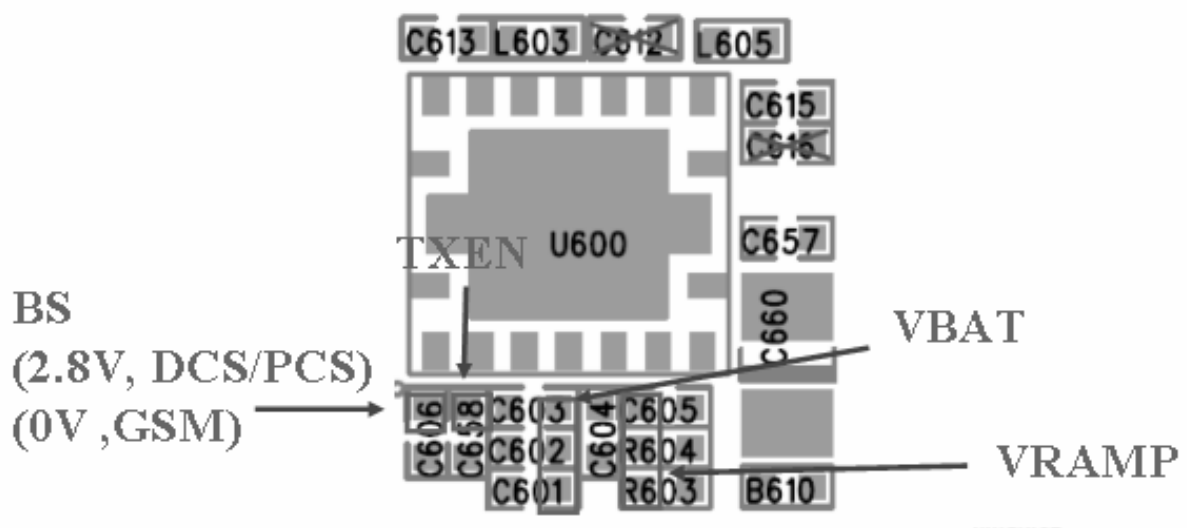
RF Problem





PA module (U600)

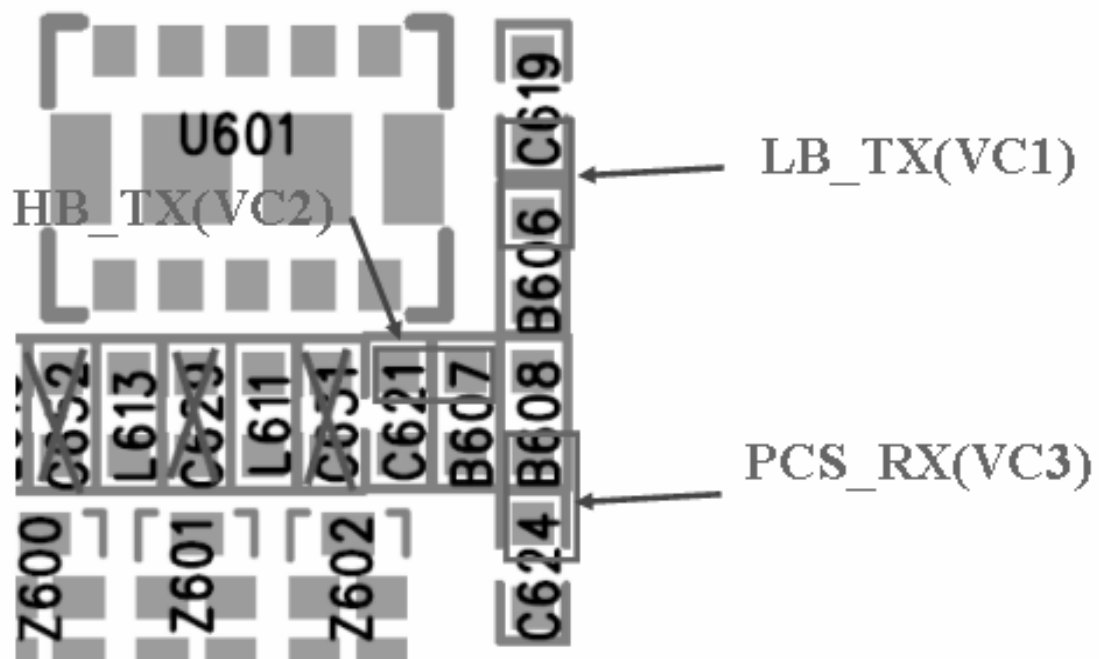
| Test point part | Function | Typical value | Description |
|-----------------|----------|----------------|--|
| U600, pin1 | DPCS_IN | | DCS PCS RF input |
| U600, pin2 | BS | 2.8V | Band select logic input |
| U600, pin3 | TXEN | 2.8V | TX enable logic input |
| U600, pin4 | VBAT | 3.8V(3.4~4.2V) | Battery supply connection |
| U600, pin5 | CEXT | | by pass |
| U600, pin6 | VRAMP | | Analog signal used to control the output power |
| U600, pin7 | EGSM_IN | | EGSM RF input |
| U600, pin10 | EGSM_OUT | | EGSM RF output |
| U600, pin16 | DPCS_OUT | | DCS, PCS RF output |



4. Troubleshooting

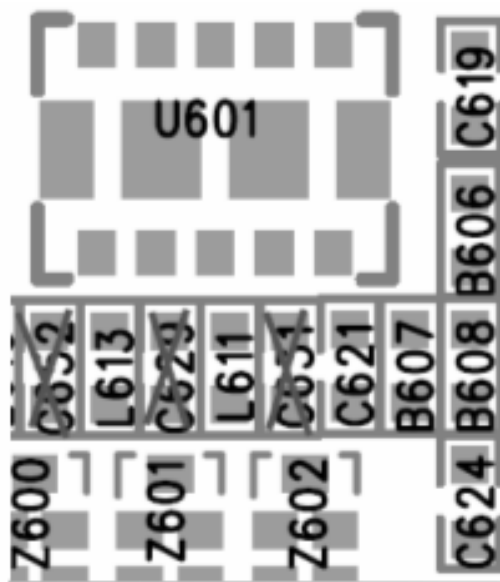
T/R Switch(U601) control signal

| | LB_TX(VC1) | HB_TX(VC2) | PCS_RX(VC3) |
|--------------|------------|------------|-------------|
| EGSM TX | 1 | 0 | 0 |
| DCS, PCS TX | 0 | 1 | 0 |
| PCS RX | 0 | 0 | 1 |
| EGSM, DCS RX | 0 | 0 | 0 |



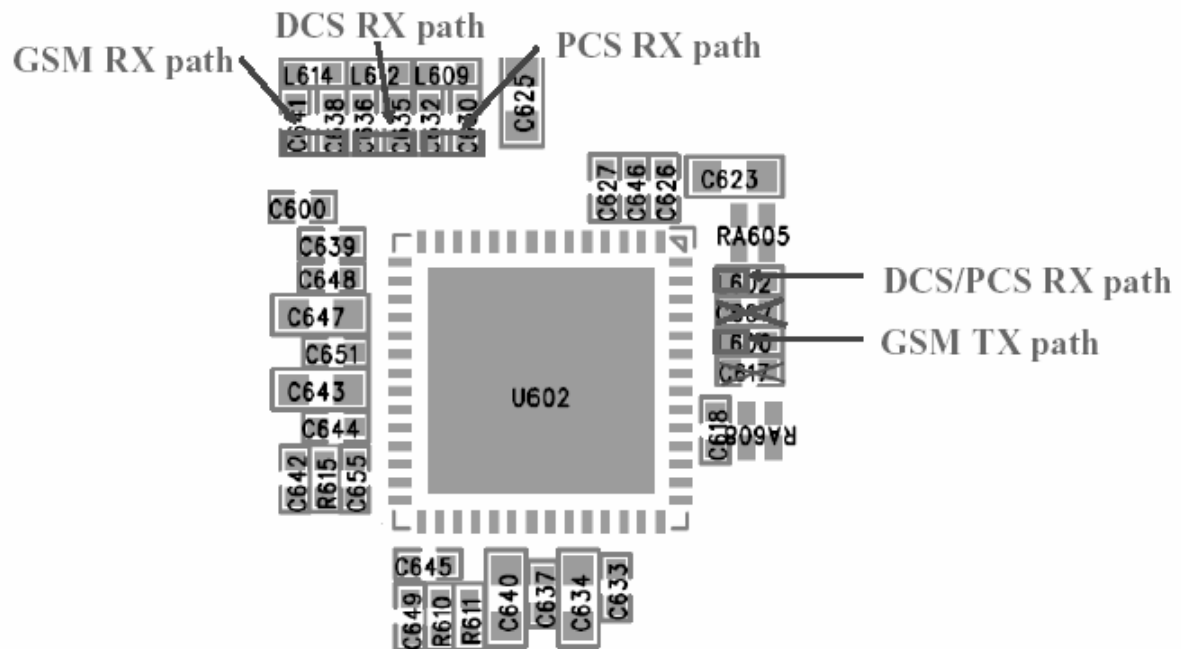
T/R Switch(U601)

| Test point part | Function | Typical value | Description |
|-----------------|----------|---------------|----------------------------|
| U601, pin1 | D_RX | | DCS RX |
| U601, pin2 | VC3 | 2.8V | PCS RX control signal |
| U601, pin3 | P_RX | | PCS RX |
| U601, pin4 | VC2 | 2.8V | DCS, PCS TX control signal |
| U601, pin5 | D_TX | | DCS PCS TX |
| U601, pin7 | G_TX | | GSM TX |
| U601, pin9 | ANT | | Antenna port |
| U601, pin10 | VC1 | 2.8V | EGSM TX control signal |
| U601, pin11 | G_RX | | GSM RX |



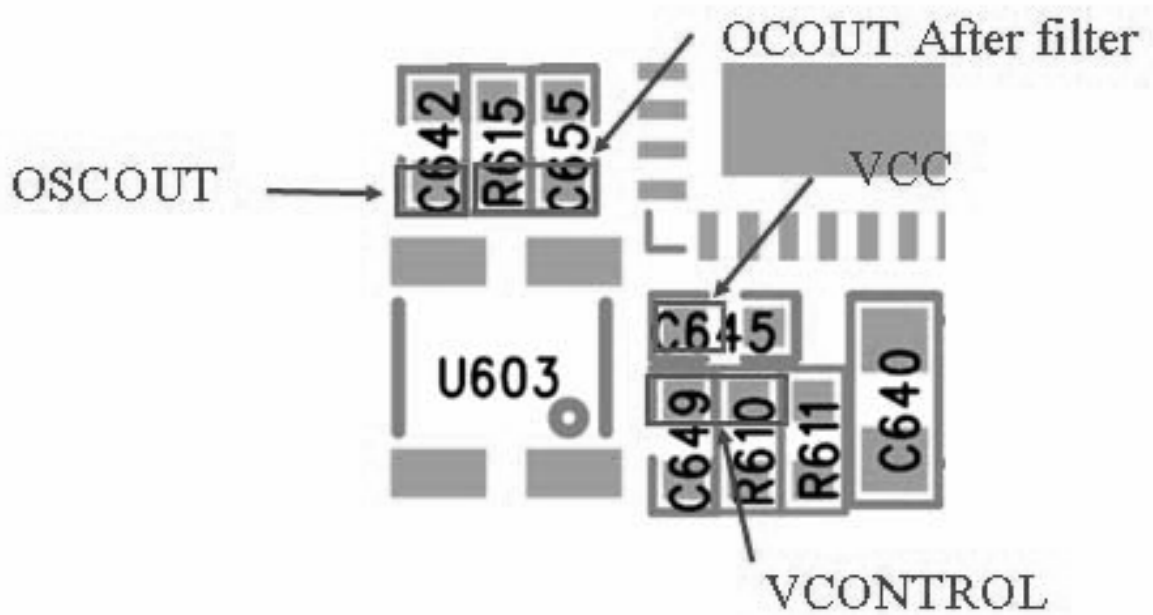
4. Troubleshooting

RF transceiver (U602)



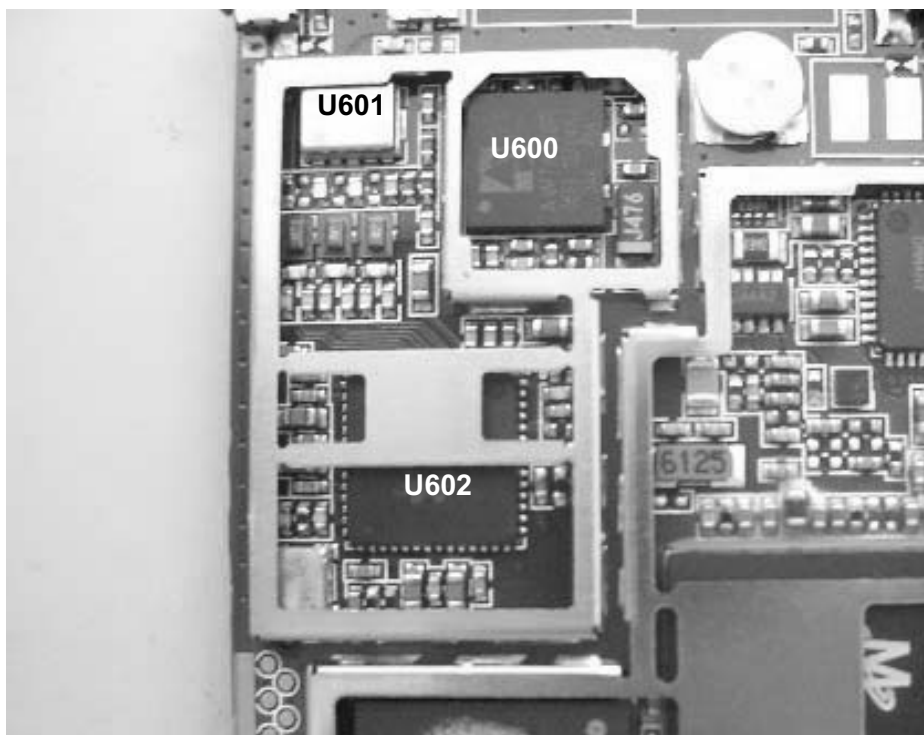
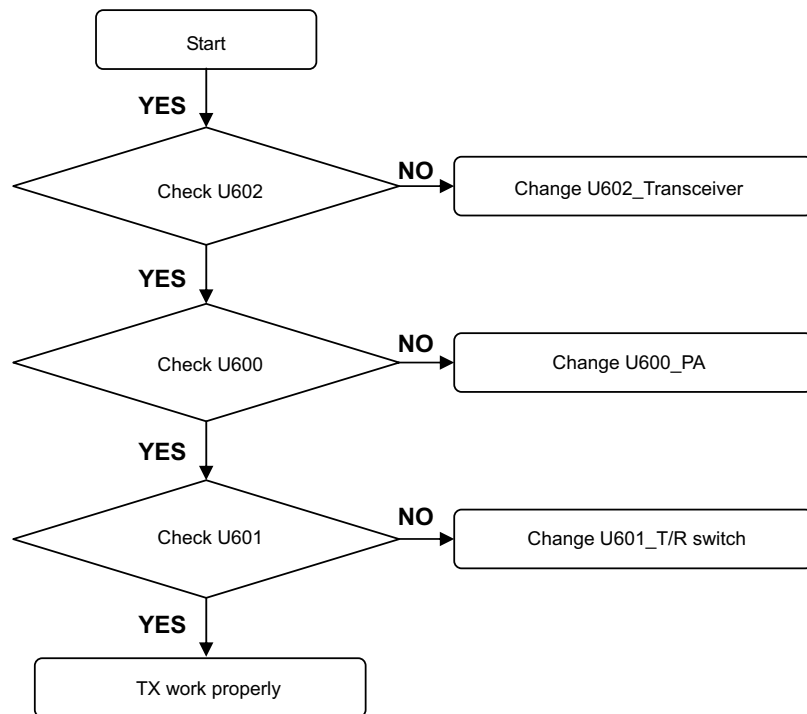
VCTCXO (U603)

| Test point part | Function | Typical value | Description |
|-----------------|----------|---------------|---|
| U603, pin1 | VCONTROL | 1.38V | Automatic frequency control voltage (AFC) |
| U603, pin3 | OSCOUT | 26MHz | Reference frequency output |
| U603, pin4 | VCC | 2.8V | Power supply |

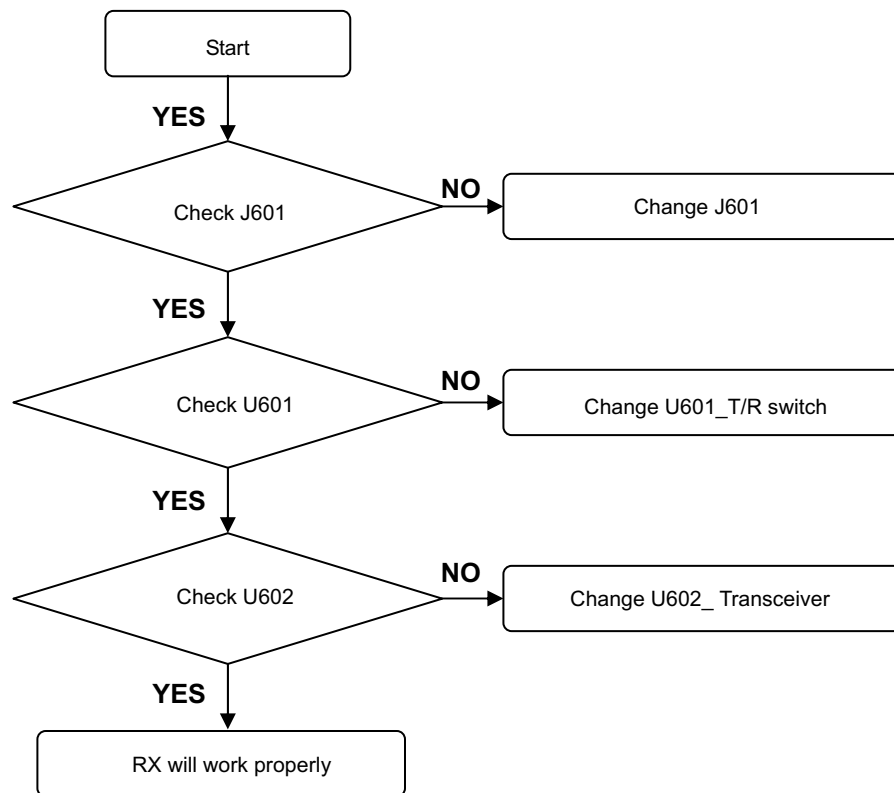


4. Troubleshooting

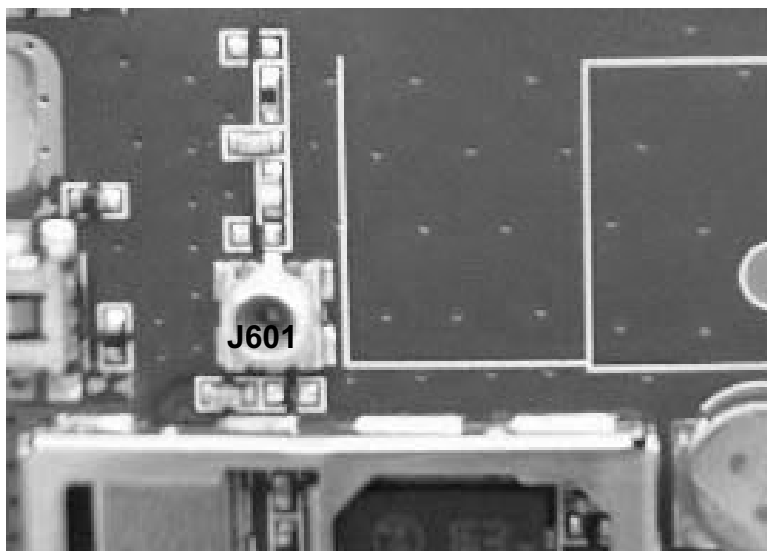
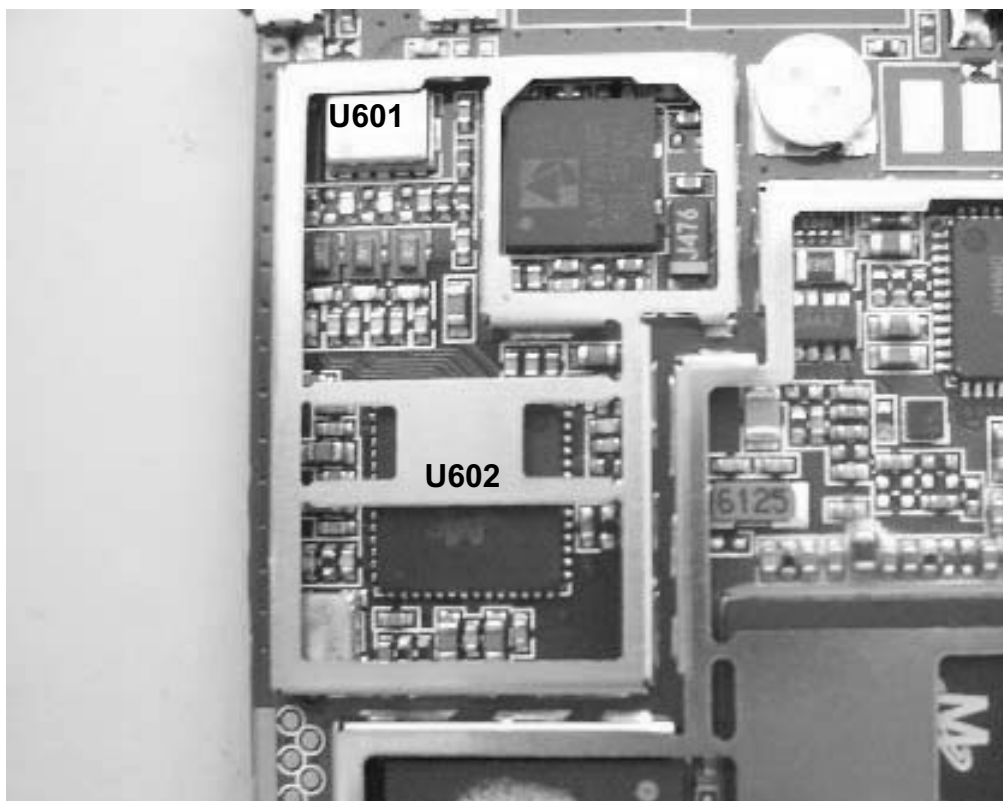
RF TX Problem



RF RX Problem

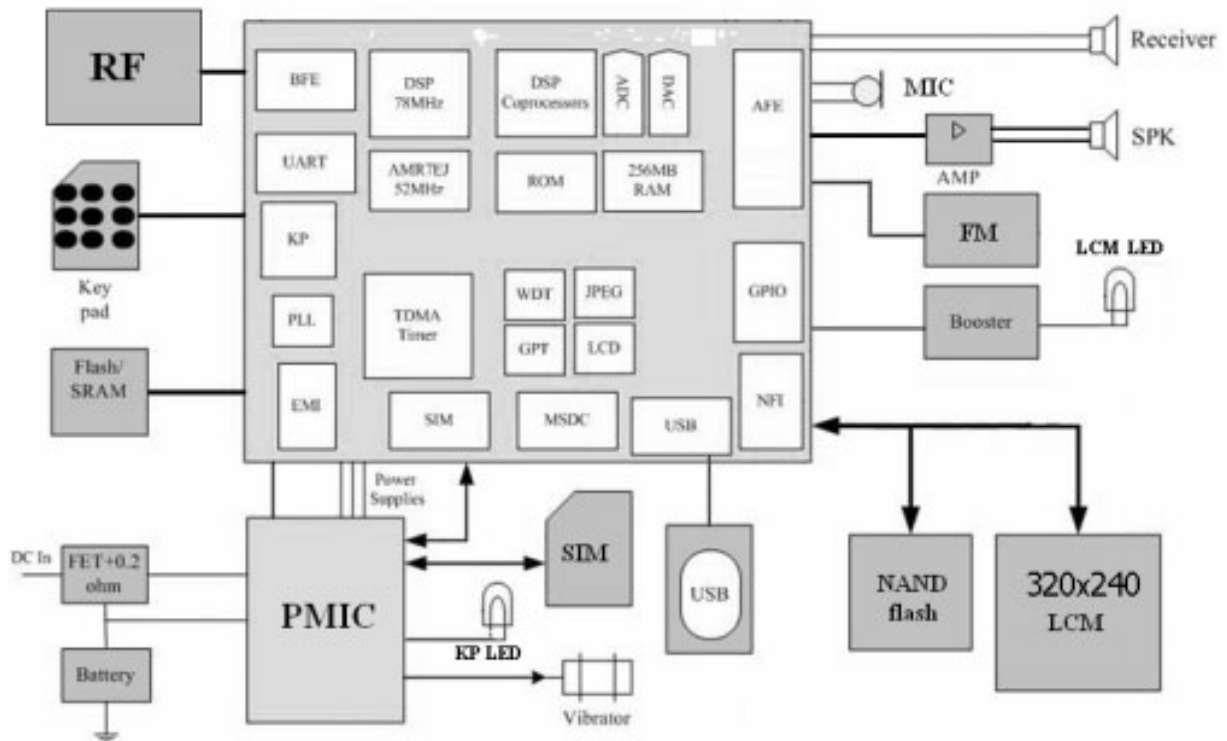


4. Troubleshooting



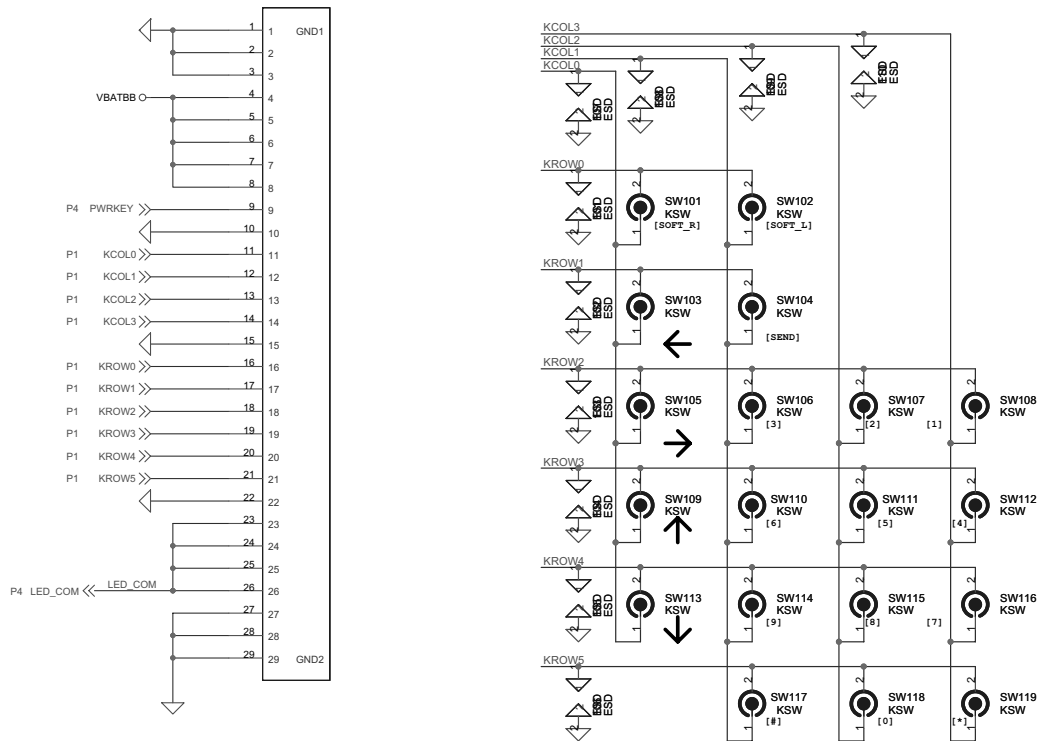
5. CIRCUIT DIAGRAMS

SYSTEM BLOCK DIAGRAM



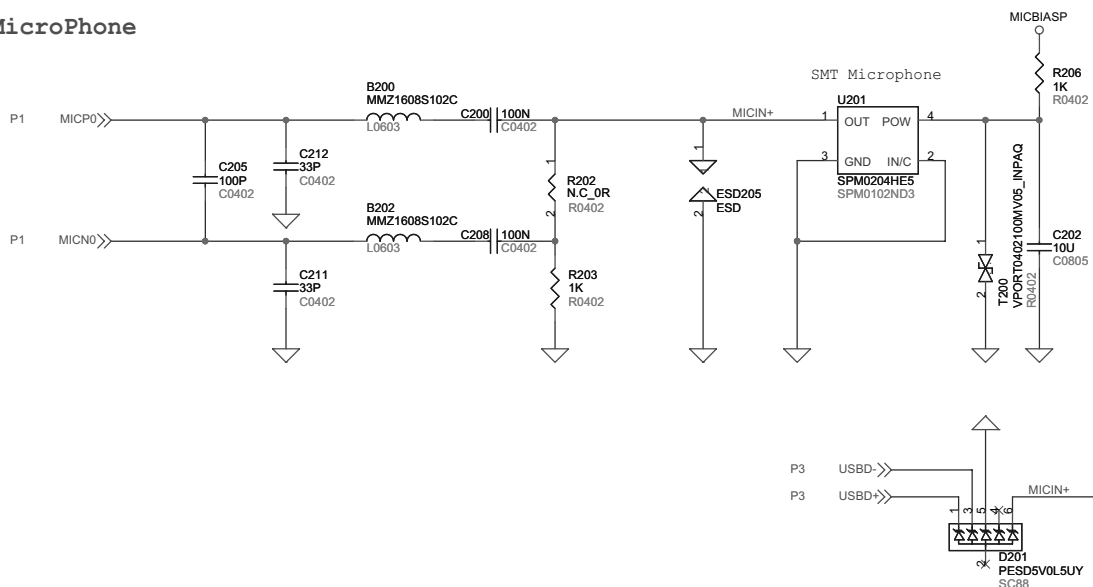
5. Circuit Diagrams

LCM & Keypad Interface



Earphone Jack

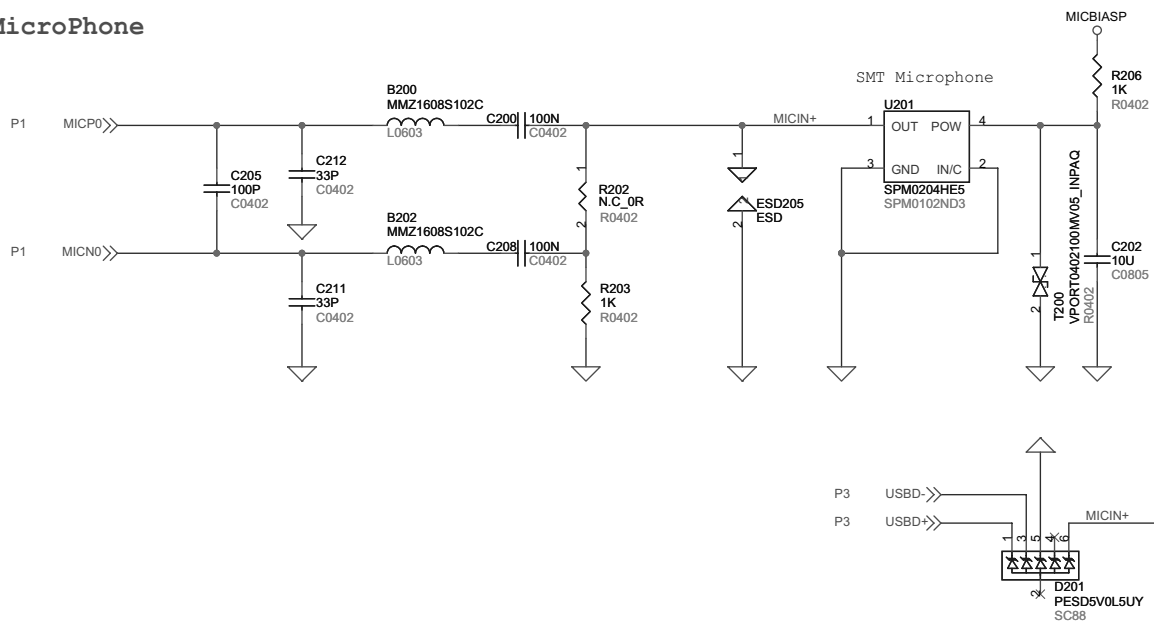
MicroPhone



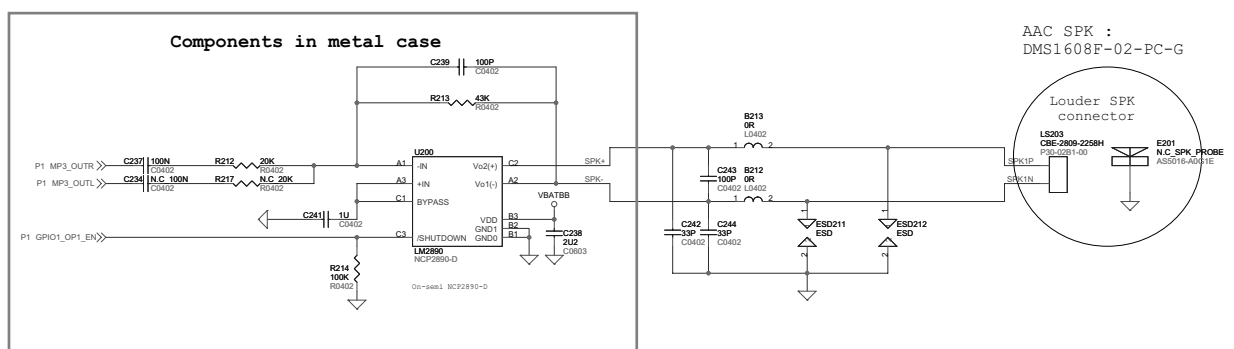
5. Circuit Diagrams

Microphone

MicroPhone



Speaker

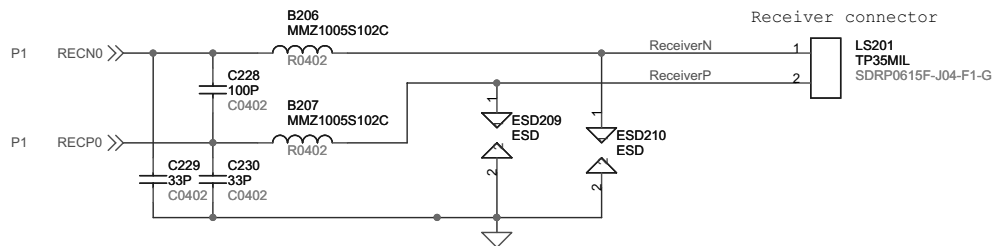


5. Circuit Diagrams

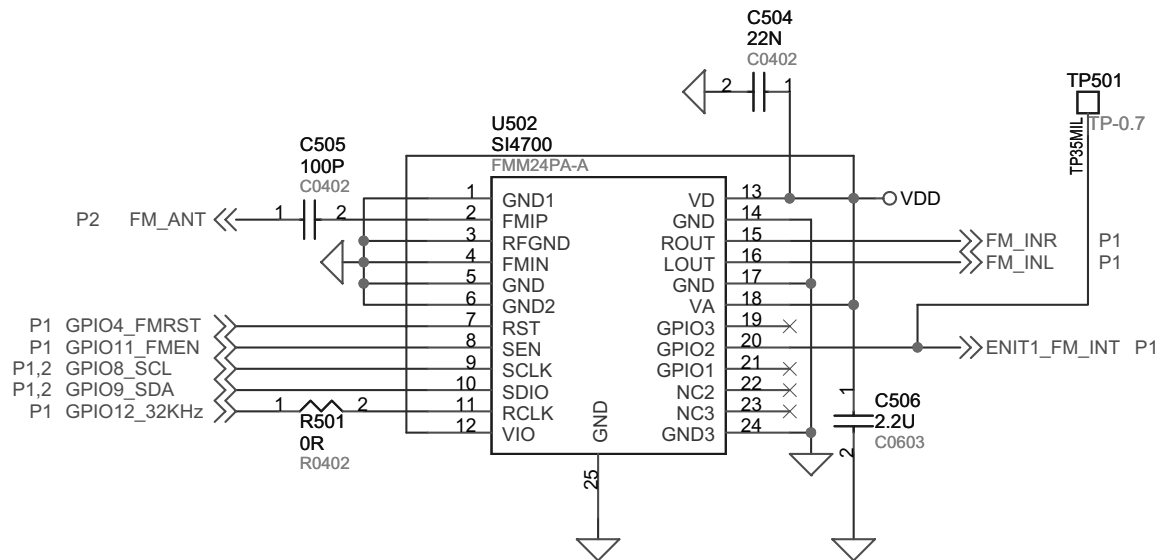
Receiver

Receiver

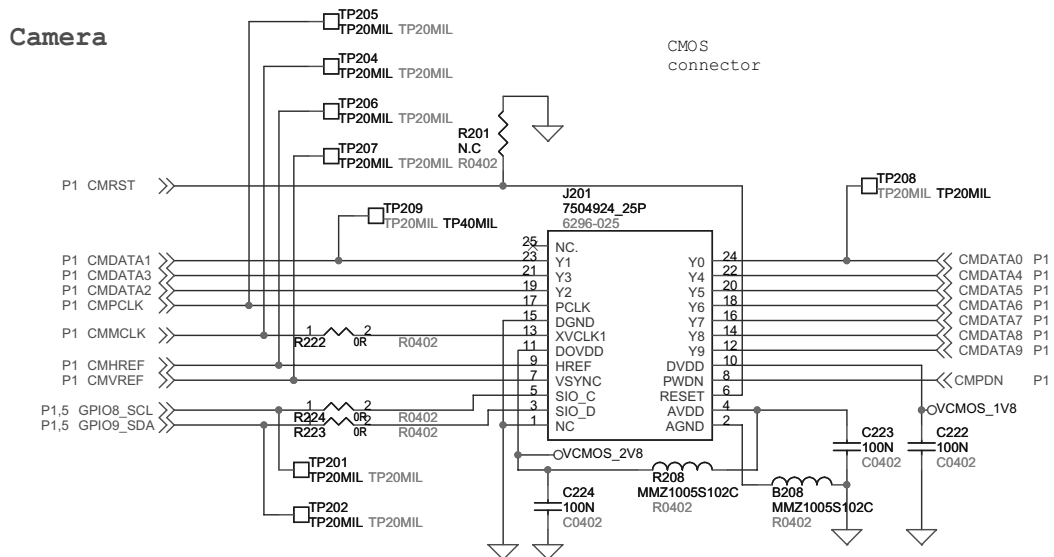
AAC reciver :
SDRP0615FJ01-F1-G



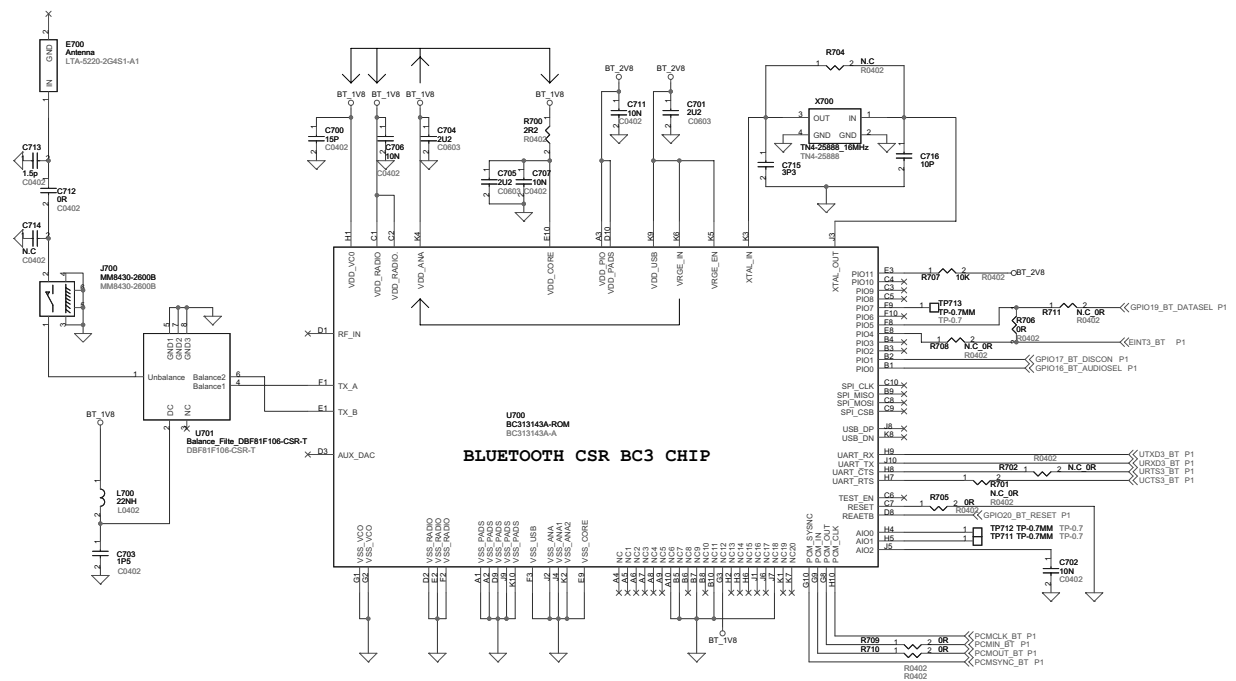
FM Receiver



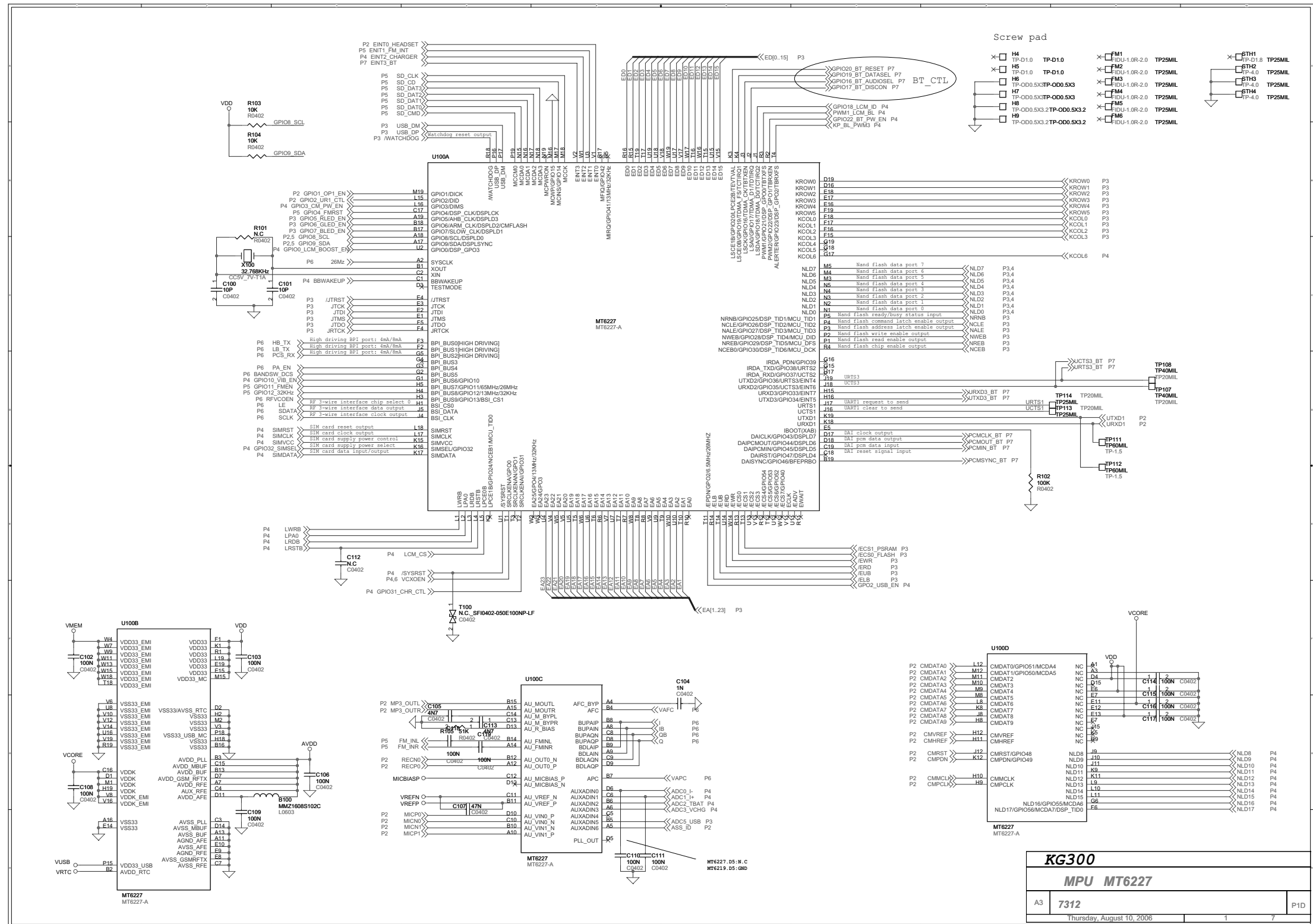
Camera Module



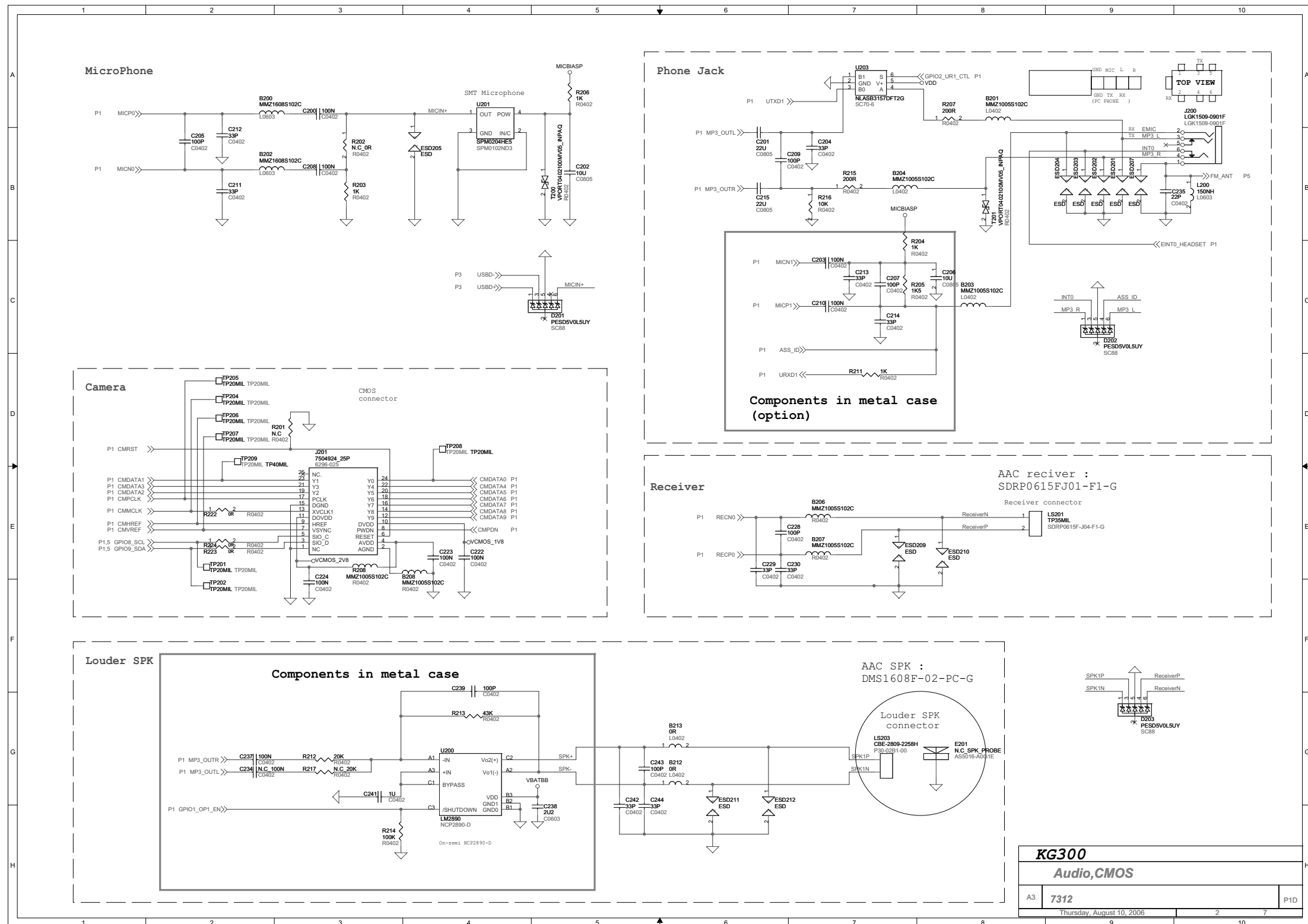
Bluetooth Module Interface



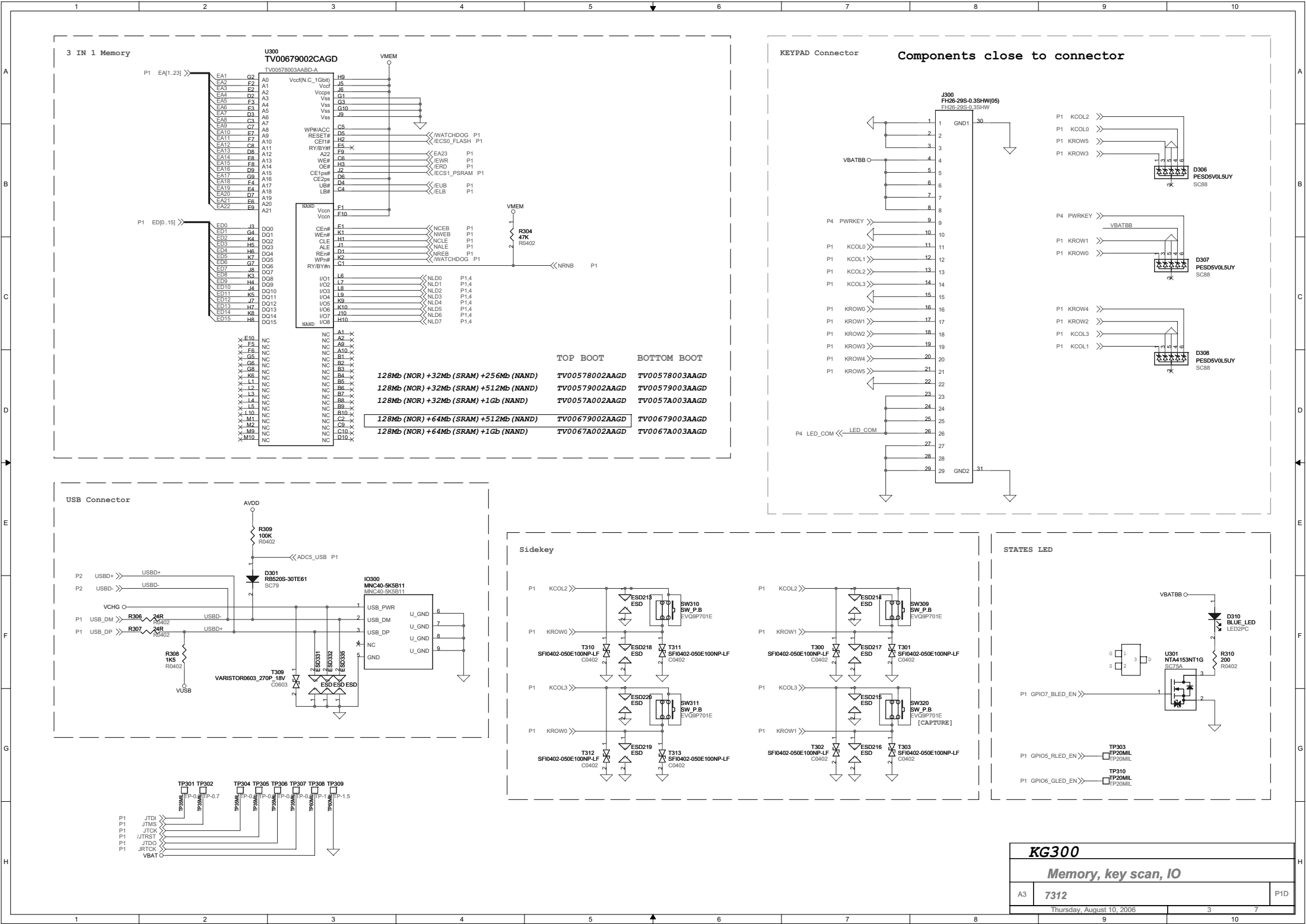
5. CIRCUIT DIAGRAM



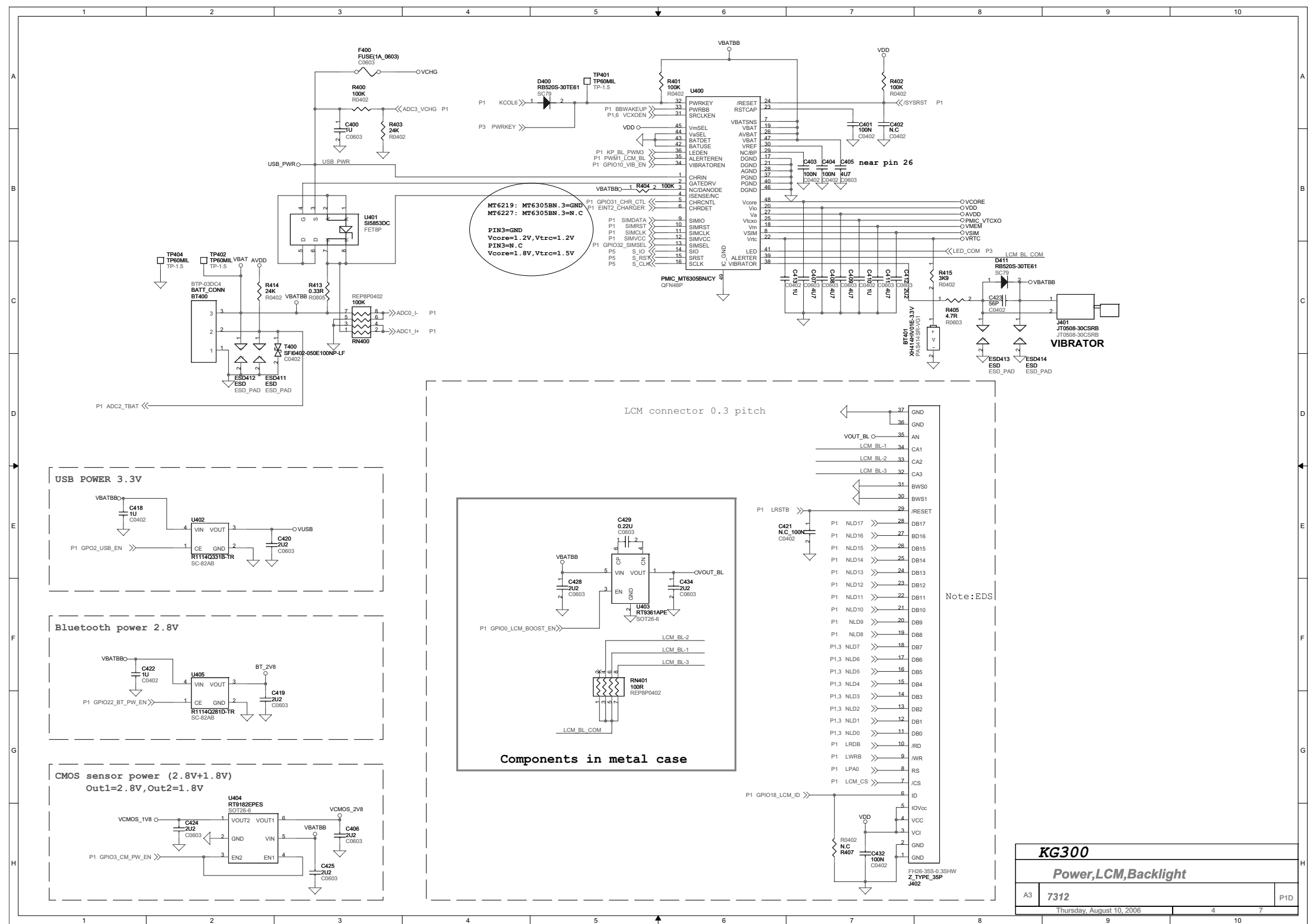
5. CIRCUIT DIAGRAM



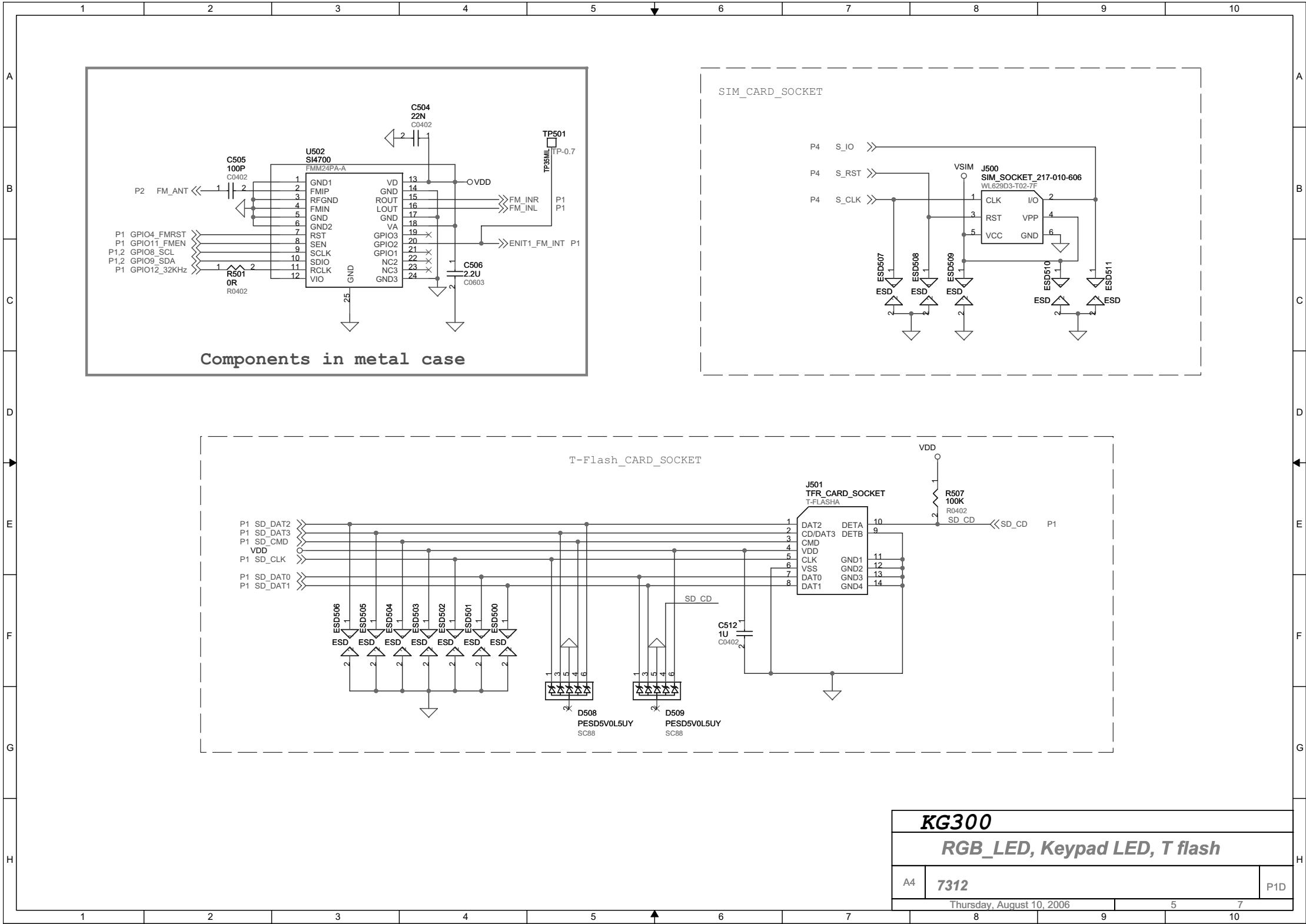
5. CIRCUIT DIAGRAM



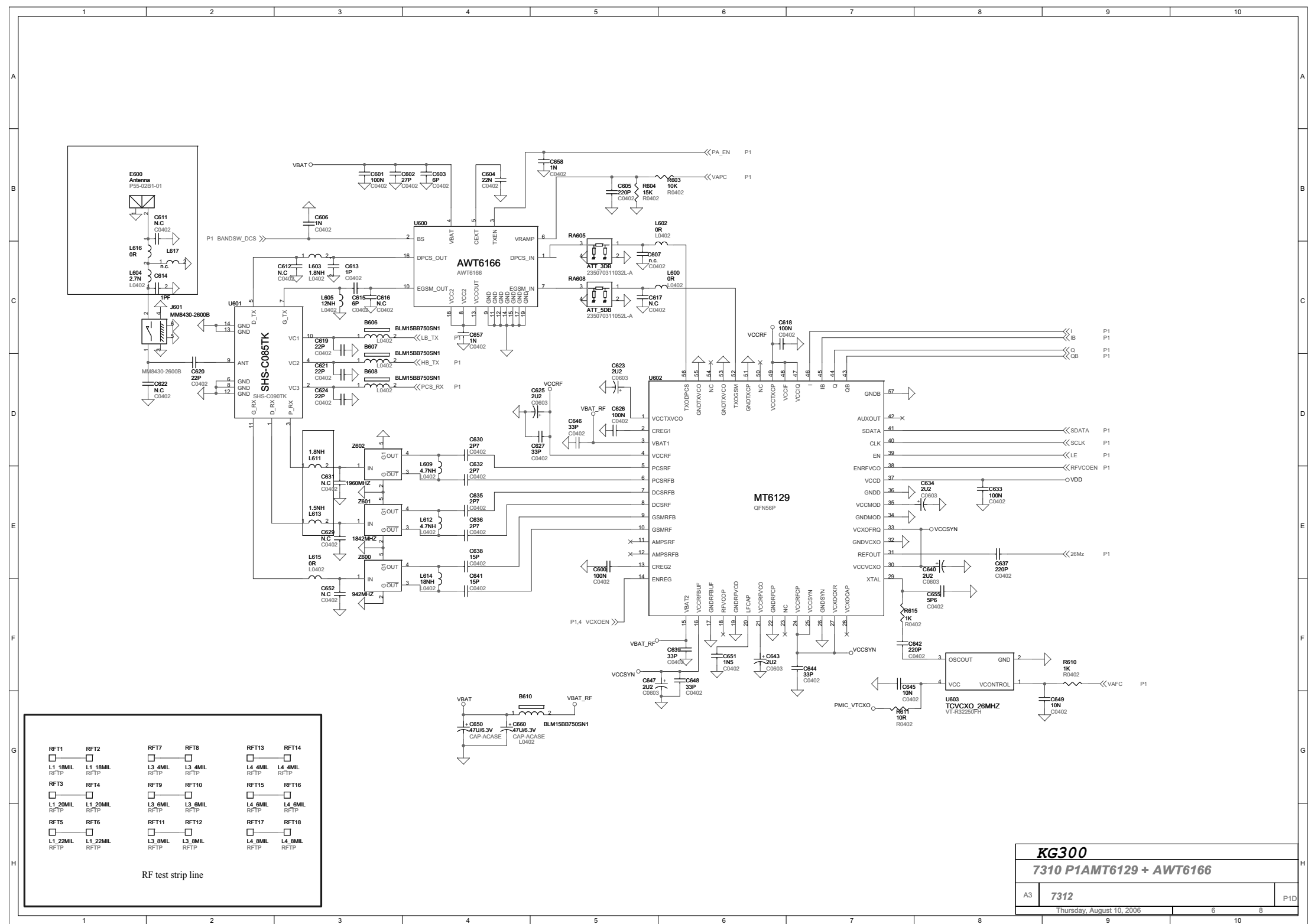
5. CIRCUIT DIAGRAM



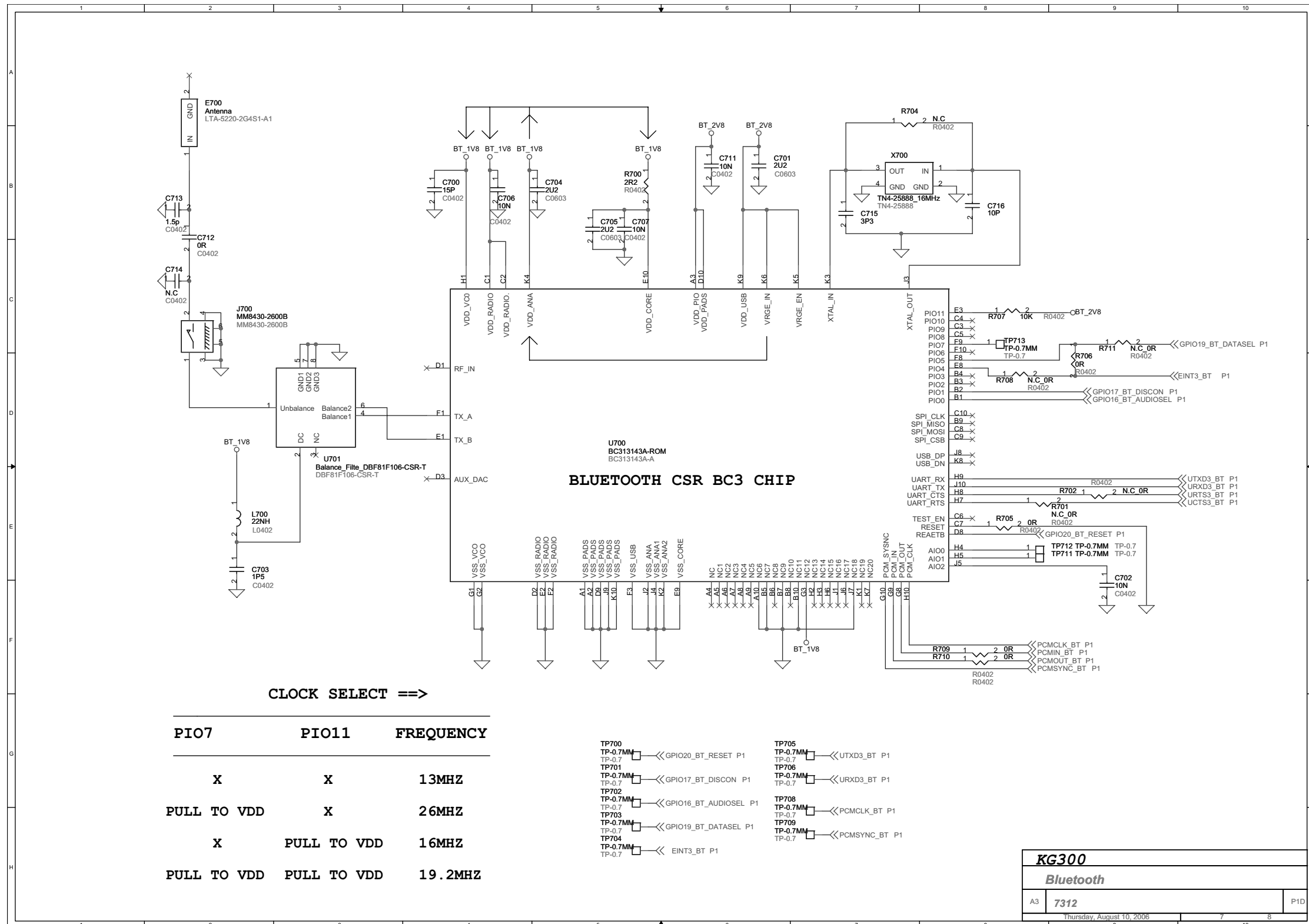
5. CIRCUIT DIAGRAM



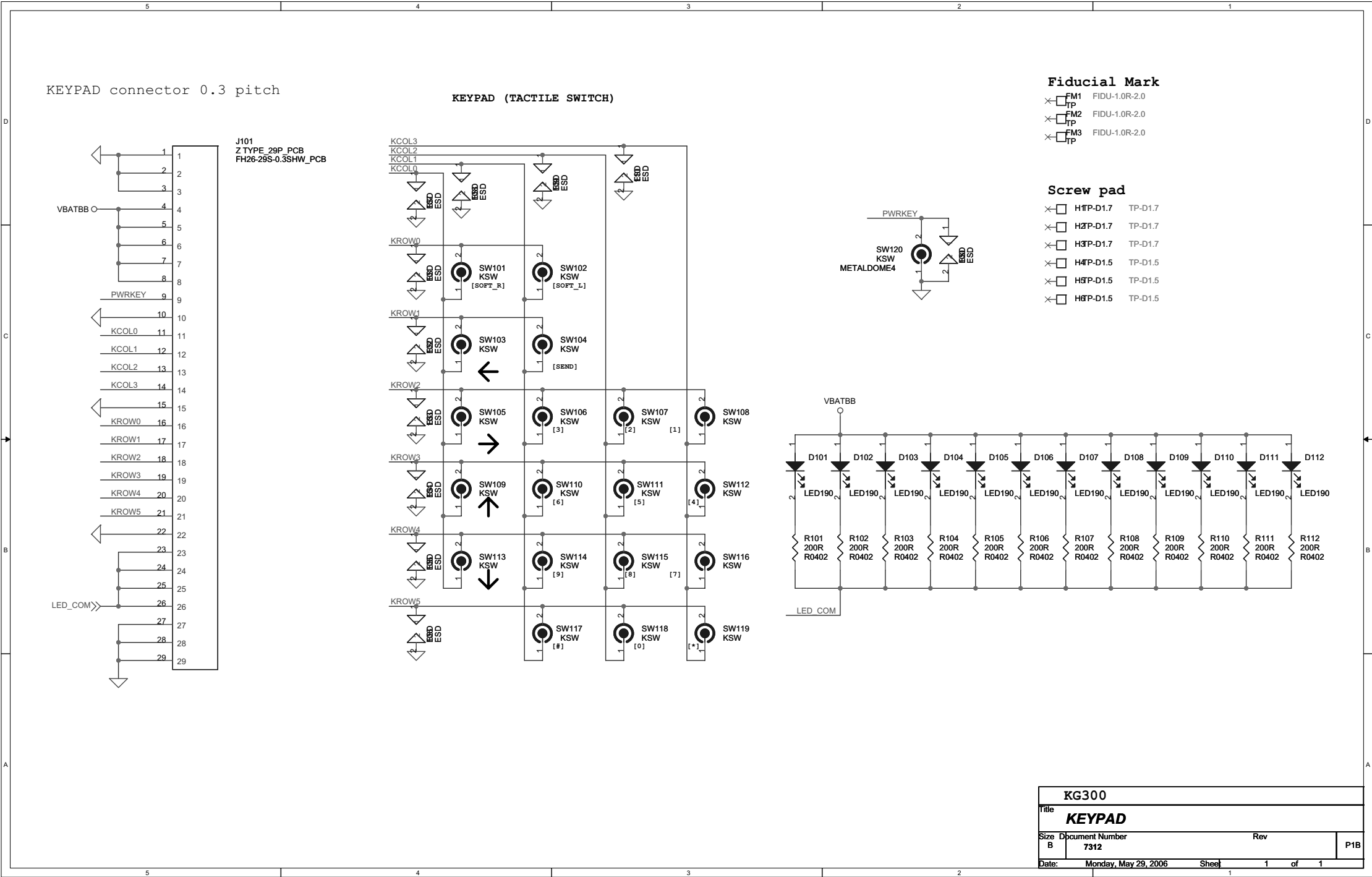
5. CIRCUIT DIAGRAM



5. CIRCUIT DIAGRAM



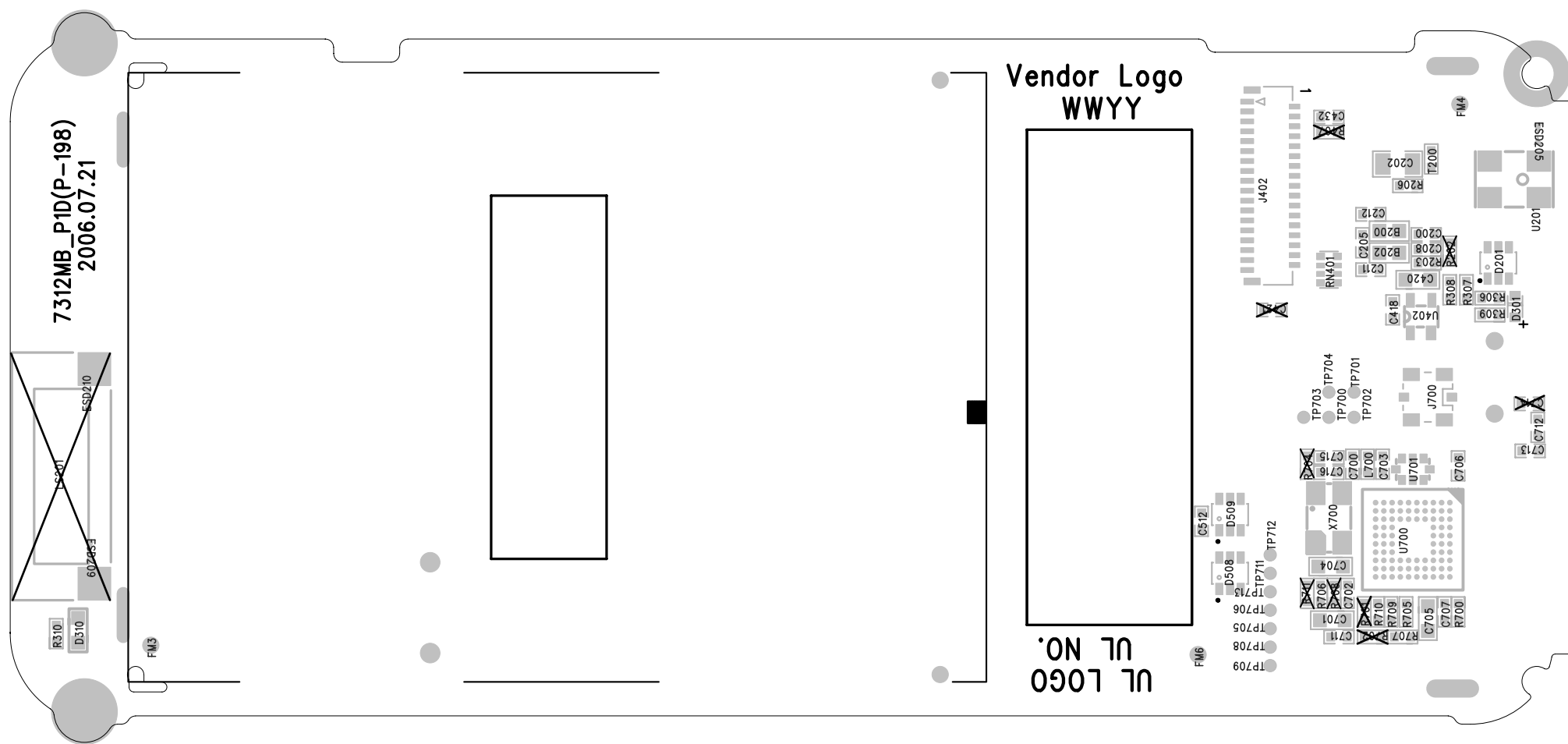
5. CIRCUIT DIAGRAM



6. PCB LAYOUT

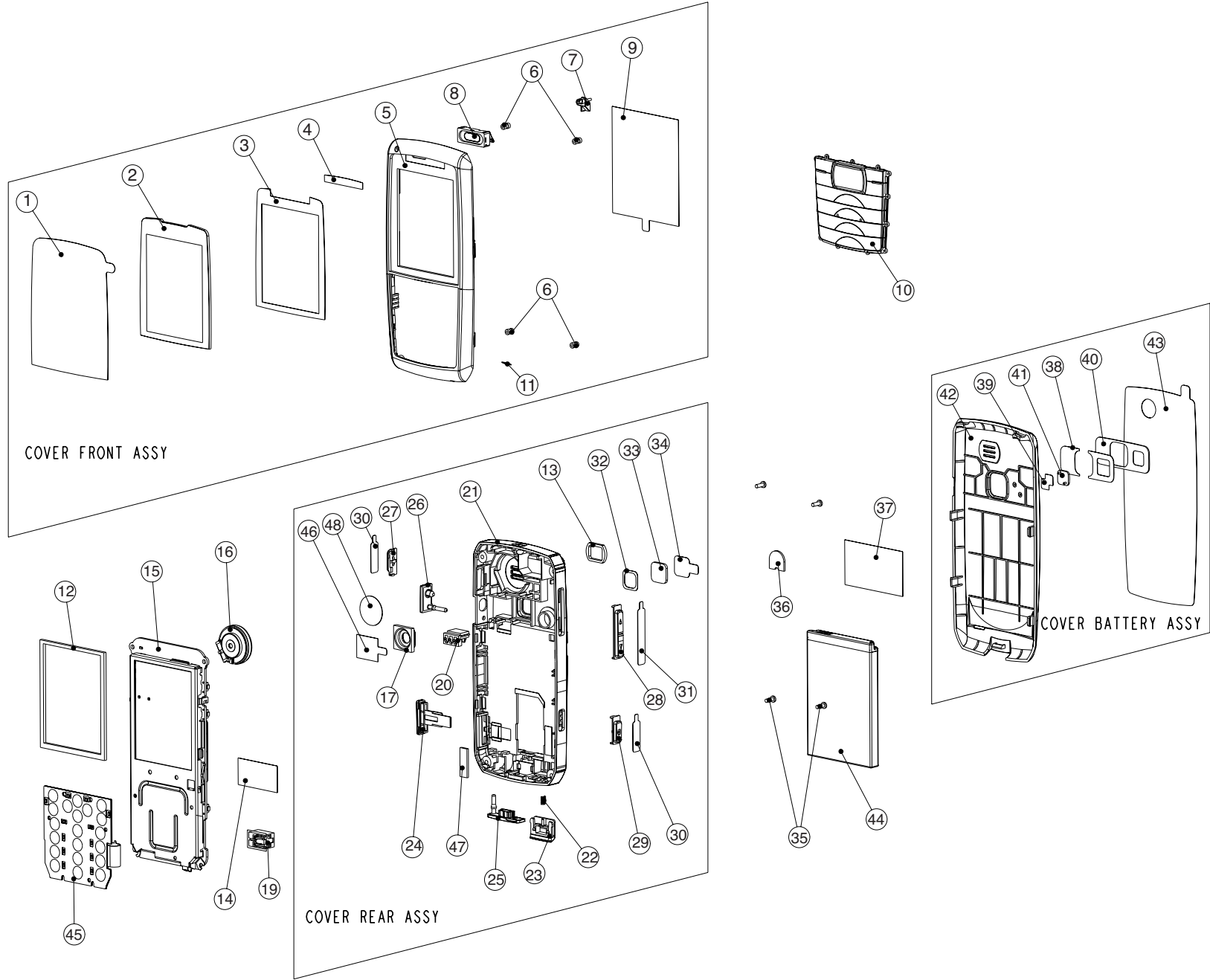


6. PCB LAYOUT



7. EXPLODED VIEW & REPLACEMENT PART LIST

7.1 EXPLODED VIEW



| | | | | | | | | |
|----|-------------|-------------|------------------|-----------------|--------------------|-------------|-------------|--------|
| 4 | KG300 AREBK | APEY0352204 | ACGK0079901 | ACGM0079801 | ACGA0017501 | AKAZ0018104 | MSAZ0042601 | |
| 3 | KG300 THABK | APEY0352203 | ACGK0079901 | ACGM0079801 | ACGA0017501 | AKAZ0018103 | MSAZ0042601 | |
| 2 | KG300 INDBK | APEY0352202 | ACGK0079901 | ACGM0079801 | ACGA0017501 | AKAZ0018102 | MSAZ0042601 | |
| 1 | KG300 CIS | APEY0352201 | ACGK0079901 | ACGM0079801 | ACGA0017501 | AKAZ0018101 | MSAZ0042601 | |
| NO | MODEL | PHONE | COVER FRONT ASSY | COVER REAR ASSY | COVER BATTERY ASSY | KEY PAD | SHEET RF | REMARK |

| | | | | |
|-----|------------------------------------|------|-------------|--------|
| 47 | PAD FPCB | I | MPBZ0161901 | |
| 46 | TAPE, PROTECTION CAMERA LENS | I | MTAB0133901 | |
| 45 | FPCB ASSY | I | ADCA0057801 | |
| 44 | BATTERY | I | SBPL0087501 | |
| 43 | TAPE, PROTECTION DECO CAMERA | I | MTAZ0152901 | |
| 42 | COVER, BATTERY | I | MCJA0036801 | |
| 41 | MIRROR, CAMERA | I | MDAY0033201 | |
| 40 | DECO, CAMERA | I | MDAD0026301 | |
| 39 | TAPE, MIRROR CAMERA | I | MTAZ0153001 | |
| 38 | TAPE, DECO CAMERA | I | MTAA0125301 | |
| 37 | LABEL, APPROVAL | I | - | |
| 36 | SHEET, RF | I | MSAZ0042601 | |
| 35 | SCREW, MACHINE | 4 | GMEY0007902 | |
| 34 | TAPE PRO CAMERA LENS OUTSIDE | I | MTAB0144201 | |
| 33 | LENS, CAMERA | I | MWAE0021101 | |
| 32 | TAPE, LENS CAMERA | I | MTAZ0152901 | |
| 31 | TAPE, PROTECTION VOLUME BUTTON | I | MTAB0133701 | |
| 30 | TAPE, PROTECTION MP3 CAMERA BUTTON | I | MTAB0133801 | |
| 29 | BUTTON, CAMERA | I | MBJZ0009101 | |
| 28 | BUTTON, VOLUME | I | MBJN0010301 | |
| 27 | BUTTON, MP3 | I | MBJZ0009201 | |
| 26 | CAP, EARJACK | I | MCCC0040201 | |
| 25 | CAP, USB | I | MCCZ0020301 | |
| 24 | CAP, SD | I | MCCZ0020201 | |
| 23 | BUTTON, COVER BATTERY | I | MLEA0034901 | |
| 22 | SPRING, LOCKER | I | MSDC0015101 | |
| 21 | COVER, REAR | I | MCJN0058701 | |
| 20 | CONTACT, BATTERY | I | ENTB0003901 | |
| 19 | VIBRATOR, MOTOR | I | SJMY0008801 | |
| 18 | FILTER SPEAKER | I | MFBC0026401 | |
| 17 | DECO, LENS CAMERA | I | MDAD0026201 | |
| 16 | SPEAKER | I | SUSY0025501 | |
| 15 | MAIN PCB | I | SAFY0192701 | |
| 14 | TAPE, SHIELD | I | MTAC0040301 | |
| 13 | PAD SPEAKER | I | MPBN0035101 | |
| 12 | PAD, LCD | I | MPBG0052001 | |
| 11 | FILTER MIKE | I | MFBD0018501 | |
| 10 | KEYPAD | I | AKAZ0018101 | |
| 9 | TAPE, PROTECTION BACK | I | MTAB0133401 | |
| 8 | RECEIVER | I | SURY0013101 | |
| 7 | INDICATOR | I | MIAA0020001 | |
| 6 | INSERT | 4 | MICA0022601 | |
| 5 | COVER, FRONT | I | MCJK0064401 | |
| 4 | TAPE, WINDOW LCD | I | MTAD0059201 | |
| 3 | FILTER RECEIVER | I | MFBB0018401 | |
| 2 | WINDOW, LCD | I | MWAC0072101 | |
| 1 | TAPE, PROTECTION WINDOW | I | MTAB0133301 | |
| NO. | DESCRIPTION | Q'TY | DRAWING NO. | REMARK |

7. EXPLODED VIEW & REPLACEMENT PART LIST

7.2 KG200 Service Parts

| ITEM | Location | Part name | LG Part number | Description | Color | Maker parts No(ARIMA) |
|------|-----------------|-------------------------------|----------------|---|-------|-----------------------|
| | Chip Set | | | | | |
| 1 | U100 | BB processor | EUSY0325001 | GP_IC BASEBAND PROCESSOR_MT6227BA/BC-L_TFBGA_296BALL_MTK | - | 311009000003LJ |
| 2 | U400 | Power IC | EUSY0325101 | GP_IC POWER MANAGEMENT UNIT(PMU)_MT6305BN/CY-D-L_QFN_48PIN_MTK | - | 311016000000LJ |
| 3 | U602 | RF Transceiver | EUSY0325201 | GP_IC TRANSCEIVER_MT6129N/AR-L_QFN_56PIN_MTK | - | 311013000000LJ |
| | Memory | | | | - | |
| 4 | U300 | Memory | EUSY0325301 | GP_IC MEMORY(STACKED)_TV00679002CAGD_P-FBGA_107BALL_128+64+512M_TOSHIBA | - | 3110070000100R |
| | RF | | | | - | |
| 5 | U600 | Power Amplifier | SMPY0015601 | GP_IC POWER AMP MODULE_AWT6166R_M15_18PIN_ANADIGICS | - | 311014000000AH |
| 6 | U603 | System clock crystal | EXXY0023601 | GP_TCXO_VTR32250FH_26MHz_+-14PPM_HOKURIKU | - | 3050030000006F |
| 7 | X700 | BT clock crystal | EXXY0023701 | GP_QUARTZ CRYSTAL_TN425888_16MHz_+-10PPM_TOYOCOM | - | 30500000000028E |
| 8 | U601 | RF Antenna Switch Module | SFAY0009901 | GP_TRIPLE SWITCHPLEXER_ESHSC085TK_HITACHI | - | 3290020000007A |
| 9 | Z600 | GSM Band SAW Filter | SFSY0032001 | GP_FIL SAW_EFCH942MTCA7_942.5MHz_PANASONIC | - | 3260000000000D |
| 10 | Z602 | PCS Band SAW Filter | SFSY0032101 | GP_FIL SAW_EFCH1960TCA1_1960MHz_PANASONIC | - | 32600000000010D |
| 11 | Z601 | DCS Band SAW Filter | SFSY0032201 | GP_FIL SAW_EFCH1842TCA7_1842.5MHz_PANASONIC | - | 32600000000020D |
| 12 | U701 | BT Band pass filter and Balun | SFSY0032301 | GP_FIL BALANCE_DBF81F106-CSR-T_2441MHz_SOSHIN | - | 326005000000JA |
| 13 | U700 | BT Transceiver | EUSY0325901 | GP_IC BLUETOOTH_BC313143A18-IRK-E4_VFBGA_84BALL_CHIP_CSR | - | 31102000000039I |
| | BB | | | | - | |
| 14 | X100 | RTC crystal | EXXY0023901 | GP_QUARTZ CRYSTAL_CC7V-T1A_32.768KHz_+-20PPM_12.5pF_MICRO CRYSTAL | - | 30500000000037W |
| 15 | U403 | Regulator | EUSY0326001 | GP_IC DRIVER_RT9361APE_SOT-23_6PIN_RICHTEK | - | 3110150000004B |
| 16 | U301 | MOSFET | EQBN0019301 | GP_N Channel-MOSFET_NTA4153NT1G_SC-75_ON SEMI | - | 31001300000003Y |
| 17 | U401 | Charger control MOS | EQFP0008801 | GP_P Channel-MOSFET+Schottky_Si5853DC-T1-E3_ChipFET_VISHAY | - | 310019000000001 |
| 18 | U203 | Analog switch | EUSY0326201 | GP_IC ANALOG SWITCH_NLASB3157DFT2G_SOT-363_6PIN_ON SEMI | - | 31101700000013Y |
| 19 | U405 | Regulator | EUSY0325601 | GP_IC LDO_R1114Q281D-TR-FA_SC-82AB_4PIN_RICOH | - | 31101900000016Q |

7. EXPLODED VIEW & REPLACEMENT PART LIST

| ITEM | Location | Part name | LG Part number | Description | Color | Maker parts No(ARIMA) |
|------|-----------------|-----------------------|----------------|---|-------|-----------------------|
| 20 | U402 | Regulator | EUSY0325801 | GP_IC LDO_R1114Q331B-TR-F_SC-82AB_4PIN_RICOH | - | 3110190000006Q |
| 21 | U404 | Regulator | EUSY0326101 | GP_IC LDO_RT9182EPES_SOT-23_6PIN_RICHTEK | - | 3110190000024B |
| 22 | U502 | FM Chip | EUSY0326401 | GP_IC FM MODULE_Si4700-B15-GMR_QFN_24PIN_SILICON LABS | - | 31102500000291 |
| 23 | U200 | Audio amplifier | EUSY0326601 | GP_IC AUDIO POWER AMPLIFIER_LM4990ITLXNOPB_micro SMD_9BALL_NS | - | 31102600000070G |
| 24 | U201 | MIC | SUMY0011501 | GP_MIC ELECTRET CONDENSER_SPM0204HE5_59dB_-42dB_±3dB_4.72*3.76*1.25mm(without holder)_SMD_KNOWLES | - | 312000000002JH |
| 25 | | THIN FILM FUSE | EFFD0002701 | GP_SMD THIN FILM FUSE_1A_CF06V3T1R0L_0603_TA-I | - | 30800200000077 |
| 26 | | VARISTOR | SEVY0008501 | GP_VARISTOR_18V_MLVS0603K14_0603_130pF_INPAQ | - | 3080040000036A |
| 27 | | VARISTOR | SEVY0008601 | GP_VARISTOR_5V_VPORT0402100MV05_0402_10pF_INPAQ | - | 3080040000006A |
| 28 | | ATTENUATORS | SQGY0000301 | GP_ATTENUATORS_3dB_50ohm_0404_0.3dB_YAGEO | - | 33400003000006 |
| 29 | | ATTENUATORS | SQGY0000401 | GP_ATTENUATORS_5dB_50ohm_0404_0.3dB_YAGEO | - | 33400005000006 |
| | EME -SMT | | | | - | |
| 30 | LS203 | SPEAKER POGO PIN | ENTB0004101 | GP_CON SPEAKER CONNECTOR_P72-02B1-01_3.5mm_2PIN_ACRON | - | 314021000005JM |
| 31 | J201 | FPC CONNECTOR | ENQY0013501 | GP_CON FPC CONNECTOR_04 6296 025 210 883_0.3mm_25PIN_KYOCERA ELCO | - | 3140120000010Z |
| 32 | IO300 | USB CONNECTOR | ENSY0019601 | GP_CON MINI USB CONNECTOR_MNC40-5K5U11_0.8mm_5PIN_ACON | - | 31401800000328 |
| 33 | BT401 | BACKUP BATTERY | SBPL0087401 | GP_BACKUP BATTERY_Li-ion_3.3V_0.015mAh_XH414HIV01E_SEIKO | - | 3060021000000S |
| 34 | J200 | EAR PHONE JACK | ENJE0006301 | GP_CON EAR PHONE JACK CONNECTOR_LGK1509-0901FC_4POLE_6PIN_SMK | - | 31400000000014 |
| 35 | J500 | SIM CONNECTOR | ENSY0019301 | GP_CON SIM CARD CONNECTOR_WL629D3-T04-7F_2.54mm_6PIN_FOXCONN | - | 31400100000210 |
| 36 | J300 | KEYPADS FPC CONNECTOR | ENQY0013601 | GP_CON FPC CONNECTOR_FH26-29S-0.3SHW(05)_0.3mm_29PIN_HIROSE | - | 31401200000971 |
| 37 | J402 | FPC CONNECTOR | ENQY0013701 | GP_CON FPC CONNECTOR_FH26-35S-0.3SHW(05)_0.3mm_35PIN_HIROSE | - | 31401200000871 |
| 38 | E201 | SPEACKER SPRING | ENTB0004301 | GP_CON SPRING CONNECTOR_AS5016-A0G1E_NO PITCH_1PIN_P-TW0 | - | 31401600000112 |
| 39 | E700 | ANT EMBEDDED | SNGF0021901 | GP_ANT EMBEDDED_7310_2450MHz_MAG.LAYER S | - | 330001731000JD |
| 40 | E600 | Antenna POGO Pin | ENTB0004401 | GP_CON ANTENNA CONNECTOR_P69-02B1-01_6.0mm_2PIN_ACRON | - | 314020000001JM |
| 41 | J501 | T-FLASH CONNECTOR | ENSY0019701 | GP_CON T-FLASH MEMORY CARD CONNECTOR_501588-0802_1.1mm_8PIN_MOLEX | - | 3140260000027Y |

7. EXPLODED VIEW & REPLACEMENT PART LIST

| ITEM | Location | Part name | LG Part number | Description | Color | Maker parts No(ARIMA) |
|------|-------------------------------------|---------------------------------|----------------|--|-------|-----------------------|
| 42 | SW309,S W310,SW 311,SW32 0 | SIDE KEY SWITCH | ESCY0004801 | GP_SWT TACT SW_EVQ9P701E_12V/50mA_4PIN_SPST_ PANASONIC | - | 3150040000010 D |
| 43 | J601,J700 | RF Switch Connector | ENWY0005101 | GP_CON RF SWITCH_MM8430- 2610_3.0mm_6PIN_MURATA | - | 31401000000109 |
| 44 | | BB SHIELDING CASE | MCBA0015501 | GP_SHIELDING CASE_7311_STAINLESS STEEL+COPPER-NICKEL-ZINC ALLOY_BB_JINCHYA | - | 407001731101S W |
| 45 | | RF SHIELDING CASE | MCBA0015601 | GP_SHIELDING CASE_7311_STAINLESS STEEL+COPPER-NICKEL-ZINC ALLOY_RF_JINCHYA | - | 407001731102S W |
| 46 | | BLUE TOOTH SHIELDING CASE | EUSY0327601 | GP_SHIELDING CASE_7310_STAINLESS STEEL+COPPER-NICKEL-ZINC ALLOY_BLUE TOOTH_JINCHYA | - | 407001731006S W |
| | Top case Ass'y | | | | - | |
| 47 | | RECEIVER | SURY0013101 | GP_SPE RECEIVER_SDRP0615FJ01-F10- G_15*6mm_32ohm_110dB_AAC | - | 313001100004AJ |
| 48 | | FRONT COVER | MCJK0064402 | GP_FRONT CABINET_BLACK_7312_PC_GABEUL PLASTIC | Black | 4010B7312000V 7 |
| 49 | | FRONT ASS'Y | ACGK0079902 | Front Cover ASS'Y black | Black | 8FNC-7312-B000 |
| | Bottom case Ass'y | | | | | |
| 50 | | SPEAKER | SUSY0025501 | GP_SPE LOUD SPEAKER_EMS1637BPB1P_16mm_8ohm_ 89dB_EM-TECH | - | 313000000000LZ |
| 51 | | BATTERY CONNECTOR | ENTB0003901 | GP_CON BATTERY CONNECTOR_BTP- 03DC4_2.5mm_3PIN_OCTEKCONN | - | 314002000002FA |
| 52 | | VIBRATOR | SJMY0008801 | GP_VIBRATOR Bar Type_JT0508-30CSRB- 1_5*9.1_JNTECH | - | 3200000000009V |
| 53 | | ANT EMBEDDED | SNGF0022001 | GP_ANT EMBEDDED_7312_TRI BAND_GREEN_PERLOS | - | 3300017312008A |
| 54 | | REAR COVER | MCJN0058701 | GP_REAR CABINET_BLACK_7312_PC_GABEUL PLASTIC | Black | 4020B7312000V 7 |
| 55 | | RF-CAP | MSAZ0042601 | GP_ADHESIVE TAPE_7312_PET/SPONGE_RF- TEST_SIAU CHON | Black | 408005731200KL |
| 56 | | REAR ASS'Y | ACGM0079801 | Rear Cover ASS'Y | Black | 8RAC-7312-S000 |
| | ME Ass'y | | | | - | |
| 57 | | CAMERA MODULE | SVCY0013701 | GP_CAMERA MODULE CMOS_DCM- 200DH_UXGA_LITE-ON SEMI | - | 335000000000LP |
| 58 | | LCM | SVLM0023601 | GP_LCD TFT LTPS_J200Q6- 03_Transmissive_240 x 320 dot_2.0" JEMITEK | - | 327005000000L Q |
| 59 | | KEYPADS FPC | SPCY0098401 | GP_FPC_PI_P-199_0.35 mm_L2_Immersion Gold_CAREER | - | 321001P199009 W |
| 60 | | BATTERY COVER | MCJA0036801 | GP_BATTERY COVER_BLACK_7312_PC_GABEUL PLASTIC | Black | 4050B7312000V 7 |
| 61 | | KEYPAD | AKAZ0018102 | GP_KEYPAD_BLACK_7312_PC+RUBBER _INDIA_MISUNG POLYTECH CO. | Black | 4040B7312002V D |
| 61a | | KEYPAD | AKAZ0018101 | GP_KEYPAD_BLACK_7312_PLASTIC+RU BBER_RUSSIA_MISUNG POLYTECH CO. | Black | 4040B7312000V D |
| 61b | | KEYPAD | AKAZ0018103 | GP_KEYPAD_BLACK_7312_PC+RUBBER _THAILAND_MISUNG POLYTECH CO. | Black | 4040B7312004V D |

7. EXPLODED VIEW & REPLACEMENT PART LIST

| ITEM | Location | Part name | LG Part number | Description | Color | Maker parts No(ARIMA) |
|------|-----------|--------------------|----------------|--|-------|-----------------------|
| 61c | | KEYPAD | AKAZ0018104 | GP_KEYPAD_BLACK_7312_PC+RUBBER_ARABIC_MISUNG POLYTECH CO. | Black | 4040B7312003V D |
| 62 | | METAL DOME | ADCA0057801 | GP_DOME_7312_METAL_FOR KEYPAD_PRINTEC | - | 40800073120021 |
| 63 | | LCM SHIELDING CASE | MCBA0015701 | GP_SHIELDING CASE_7312_STAINLESS STEEL_LCM_JINCHYA | - | 407001731200S W |
| 64 | | SCREW | GMEY0007902 | GP_SCREW_MACHINE SCREW_FLAT HEAD_+ NOTCH_M1.4mm_4.5mm_HNS | - | 4090100148002 Q |
| 65 | | KEYPADS MYLAR | MTAZ0178701 | GP_ADHESIVE TAPE_7330_MYLAR_LCM/KEYPAD FPC_SIAU CHON | - | 408005733001KL |
| 66 | | MIC TAPE | MFBD0018501 | GP_ADHESIVE TAPE_7312_ADHESIVE_MIC_SIAU CHON | - | 408005731202KL |
| 67 | | SPONGE SPEAKER | MPBN0035101 | GP_CUSHION_7312_SPONGE_SPEAKER SPRING_SIAU CHON | - | 408003731200KL |
| 68 | | LCM FPC MYLAR | MTAZ0178801 | GP_ADHESIVE TAPE_7312_MYLAR_LCM FPC_SIAU CHON | - | 408005731201KL |
| 69 | | MIC RUBBER | MCCZ0023301 | GP_CUSHION_7312_SILICON RUBBER_MIC_ALL BLESSING | - | 408003731200E Q |
| 70 | | LCM MYLAR | MTAZ0178901 | GP_ADHESIVE TAPE_7310_MYLAR_SIAU CHON | - | 408005731000KL |
| 71 | | PROTECTIVE FILM | MPHY0009301 | PROTECTIVE FILM_PVC_7310_MAIN LENS_58.71 x 44.2_I-mobile_SIAU CHON | - | 208070900000KL |
| | Accessory | | | | - | |
| 72 | | BATTERY PACK | SBPL0087501 | GP_BATTERY PACK_Li-ion_3.7V_800mAh_WITHOUT COVER_E3AR040802H12_WELLDONE | - | 306003100000A3 |
| 73 | | TRAVEL CHARGER | SGCT0004601 | GP_SWITCHING TRAVEL CHARGER_100~240V_5.2V_550mA_CE_G P-ACGN-22T-A22_Europe EN 50 075(ungrounded)_GEARWAY_SUNFONE | - | 331000000000LY |
| 74 | | Ear-mic | SGEY0006901 | GP_HDF_CHM201STS04042_32ohm_56dB_42dB_COTRON | - | 333000000000D 5 |
| 75 | | USB Cable | SGDY0012701 | GP_USB Cable_CUHD005B-S13-EF_FOXCONN_FOXCONN | - | 41000100000110 |
| | Service | | | | - | |
| 76 | | SW D/L CABLE | SGDY0013001 | SW D/L CABLE | - | 410-7312000001 |
| 77 | | RF Cable | SGDY0012901 | RF Cable | - | 410-7312000002 |
| 78 | | PCBA | SAFY0192701 | 8ROA Main Board | - | 8ROA-7312-0000 |

Note
